Access DB# 103918

SEARCH REQUEST FORM

Scientific and Technical Inf rmati n Center

Requester's Full Name: YARAZANO Examiner # : 73088 Date: 9/15/2003
Art Unit: 1773 Phone Number 308-2379 Serial Number: 09/901,097
Mail Box and Bldg/Room Location: 11B08 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: See Attached

Inventors (please provide full names): 9832:384 cld: Parent

JP → PCT → Divisional

Earliest Priority Filing Date: 11/25/1996 * US2002136823

**For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

* This case has an old effective filing date. I only want results that will beat the date of 11/25/1996. A lot has been published since then.

Inkjet printing of the materials listed in claim 78.

Inkjet printing of organic semiconductor

STAFF USE ONLY		Type of Search		Vendors and cost where applicable	
Searcher:	T Calve	NA Sequence (#)		STN	
Searcher Phone #:		AA Sequence (#)		Dialog	
Searcher Location:		Structure (#)		Questel/Orbit	
Date Searcher Picked Up:		Bibliographic		Dr.Link	
Date Completed:		Litigation		Lexis/Nexis	
Searcher Prep & Review Time:		Fulltext		Sequence Systems	
Clerical Prep Time:		Patent Family		WWW/Internet	
Online Time:		Other		Other (specify)	

PTO-1590 (8-01)

STIC Search Report
EIC 1700

USPTO

STIC Database Tracking Number: 103918

TO: Donald Tarazano **Location:** **Art Unit : 1773** **September 23, 2003** **Case Serial Number: 09/901097**	**From: John Calve** **Location: EIC 1700** **CP3/4-3D62** **Phone: 308-4139** **John.Calve@uspto.gov**

Search Notes

Search and Information Resources Administration

STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact ***the EIC searcher or contact:***

Kathleen Fuller, EIC 1700 Team Leader
308-4290, CP3/4-3D62

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1713*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art **not found:***
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/EIC1700 CP3/4 3D62

```
=> file hca

FILE 'HCA' ENTERED AT 11:30:44 ON 23 SEP 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)
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FILE COVERS 1907 - 18 Sep 2003 VOL 139 ISS 13
FILE LAST UPDATED: 18 Sep 2003  (20030918/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> d his nofile

     (FILE 'HOME' ENTERED AT 09:14:59 ON 23 SEP 2003)

     FILE 'REGISTRY' ENTERED AT 09:15:31 ON 23 SEP 2003
                E MTDATA/CN
L1             1 SEA ABB=ON  PLU=ON  MTDATA/CN
                E RUBRENE/CN
L2             1 SEA ABB=ON  PLU=ON  RUBRENE/CN
                E POLYVINYL CARBAZOLE/CN
                E 25067-59-8/RN
L3             1 SEA ABB=ON  PLU=ON  25067-59-8/RN
                D SCAN
                E NPD/CN
L4             4 SEA ABB=ON  PLU=ON  (NPD/CN OR "NPD (PLASTICIZER)"/CN)
                E 123847-85-8/RN
L5             1 SEA ABB=ON  PLU=ON  123847-85-8/RN
L6             4 SEA ABB=ON  PLU=ON  L5 OR L4

     FILE 'HCA' ENTERED AT 09:18:08 ON 23 SEP 2003
L7          7205 SEA ABB=ON  PLU=ON  L1 OR L2 OR L3 OR L4 OR L5 OR L6

     FILE 'LCA' ENTERED AT 09:18:42 ON 23 SEP 2003
L8             1 SEA ABB=ON  PLU=ON  POLYVINYLTHIOPHENE# OR DIMETHYLTHIOPHENE#
                OR DIETHYLTHIOPHENE# OR DIPROPYLTHIOPHENE# OR (POLYVINYL# OR
                DIMETHYL# OR DIETHYL# OR DIPROPYL#)(A)THIOPHENE#
L9             0 SEA ABB=ON  PLU=ON  THIENYL?(A)VINYL?
L10           12 SEA ABB=ON  PLU=ON  VINYLENE#
L11          260 SEA ABB=ON  PLU=ON  ?PHENYLENE OR ?FLUORENE OR PYRAZOLE?
L12          223 SEA ABB=ON  PLU=ON  QUINOL?
L13            5 SEA ABB=ON  PLU=ON  QUINOLIZINE?
L14            0 SEA ABB=ON  PLU=ON  BENZOPYRLIUM#(A)PERCHLORATE# OR BENZOPYRANO
                QUINOLIZINE#
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L15         127 SEA ABB=ON  PLU=ON  RUBRENE# OR PHENANTHROLINE#(2A)(EUROPIUM#
                OR EU) OR DSA OR (AL OR ALUMINUM#)(A)QUINOLINOL# OR BEBQ OR
                ?TRIAZOLE OR AZOMETHINE# OR PORPHINE(A)(COMPOUND# OR COMPLEX
                OR SALT##)
L16         549 SEA ABB=ON  PLU=ON  ?DIAMINE OR MTDATA OR QUINACRIDONE# OR
                BISSTIL? OR POLYVINYL#(A)CARBOZOLE# OR PHTHALOCYANINE# OR
                POLYANILINE#
L17           2 SEA ABB=ON  PLU=ON  DSA OR MTDATA OR NPD

     FILE 'REGISTRY' ENTERED AT 09:38:47 ON 23 SEP 2003
L18         195 SEA ABB=ON  PLU=ON  9832.38?/RID
                E BENZOPYRYLIUM/CN
L19           1 SEA ABB=ON  PLU=ON  BENZOPYRYLIUM/CN
                E BENZOPYRANOQUINOLIZINE/CN
L20           0 SEA ABB=ON  PLU=ON  BENZOPYRANOQUINOLIZINE/CN
L21           1 SEA ABB=ON  PLU=ON  BENZOPYRANTHRENE/CN
                D SCAN
                E BEBQ/CN
L22           3 SEA ABB=ON  PLU=ON  (BEBO/CN OR BEBP/CN OR BEBZ/CN)
                E BENZOXADIAZOL/CN
                E BENZOXAD/CN
                E QUINACRIDONE/CN
L23           1 SEA ABB=ON  PLU=ON  QUINACRIDONE/CN
                E BISSTIL/CN
L24           1 SEA ABB=ON  PLU=ON  (BISTAL/CN OR "BISTAL W"/CN)
                E PTHALOCYANIN/CN
                E POLYANILINE?CN

     FILE 'HCA' ENTERED AT 09:44:29 ON 23 SEP 2003
L25         369 SEA ABB=ON  PLU=ON  L18
L26        7028 SEA ABB=ON  PLU=ON  L19 OR L21 OR L22 OR L23 OR L24
L27     1086922 SEA ABB=ON  PLU=ON  L8 OR L10 OR 11 OR L12 OR L13 OR L15 OR
                L16
L28        2446 SEA ABB=ON  PLU=ON  DSA OR MTDATA OR NPD
L29        1710 SEA ABB=ON  PLU=ON  BISTAL# OR QUINACRIDONE#
L30       30600 SEA ABB=ON  PLU=ON  INK?(A)JET? OR INKJET? OR INK?(A)PRINT?
L31       17124 SEA ABB=ON  PLU=ON  L7 OR L25 OR L26 OR L17 OR L28 OR L29
L32        3356 SEA ABB=ON  PLU=ON  L30 AND (L31 OR L27)
L33        2192 SEA ABB=ON  PLU=ON  L32 AND 1907-1996/PY,PRY
L34           0 SEA ABB=ON  PLU=ON  L25 AND L33

     FILE 'STNGUIDE' ENTERED AT 09:51:12 ON 23 SEP 2003

     FILE 'HCA' ENTERED AT 09:51:56 ON 23 SEP 2003
L35      438791 SEA ABB=ON  PLU=ON  L8 OR L10 OR L11 OR L12 OR L13 OR L15 OR
                L16
L36        1636 SEA ABB=ON  PLU=ON  L33 AND L35
L37      410202 SEA ABB=ON  PLU=ON  SEMICONDUCTOR#
L38      410244 SEA ABB=ON  PLU=ON  SEMICONDUCTOR?
L39           6 SEA ABB=ON  PLU=ON  L36 AND L38

     FILE 'LCA' ENTERED AT 09:54:56 ON 23 SEP 2003
L40         157 SEA ABB=ON  PLU=ON  (SEMINCONDUCT? OR VLSI OR LSI OR TRANSITOR
                OR THRYSISTOR OR DIODE)
L41           6 SEA ABB=ON  PLU=ON  L40(2A)(DEVICE? OR COMPONENT?)
L42       12041 SEA ABB=ON  PLU=ON  MATERIAL? OR COMPOSIT? OR FORMULAT? OR
                BLEND? OR AMALGAM?
L43           0 SEA ABB=ON  PLU=ON  L40(3A)L42
L44           3 SEA ABB=ON  PLU=ON  L41 AND L42
                D SCAN
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     FILE 'HCA' ENTERED AT 10:05:44 ON 23 SEP 2003
L45       80892 SEA ABB=ON  PLU=ON  (SEMINCONDUCT? OR VLSI OR LSI OR TRANSITOR
                OR THRYSISTOR OR DIODE)
L46        4053 SEA ABB=ON  PLU=ON  L45(2A)(DEVICE? OR COMPONENT?)
L47             QUE ABB=ON  PLU=ON  MATERIAL? OR COMPOSIT? OR FORMULAT? OR
                BLEND? OR AMALGAM?
L48         994 SEA ABB=ON  PLU=ON  L46 AND L47
L49           0 SEA ABB=ON  PLU=ON  L33 AND L48
L50      477473 SEA ABB=ON  PLU=ON  (SEMICONDUCT? OR VLSI OR LSI OR TRANSITOR
                OR THRYSISTOR OR DIODE)
L51      172626 SEA ABB=ON  PLU=ON  L50(2A)(DEVICE? OR COMPONENT?)
L52           2 SEA ABB=ON  PLU=ON  L33 AND L51
                D SCAN
L53           2 SEA ABB=ON  PLU=ON  L36 AND L51
                D SCAN
L54           6 SEA ABB=ON  PLU=ON  L50 AND L36
L55           3 SEA ABB=ON  PLU=ON  L54 AND L47
                E SEMICONDUCTOR MATERIAL+ALL/IT
                E SEMICONDUCTORMATERIAL+ALL/IT
L56       71021 SEA ABB=ON  PLU=ON  SEMICONDUCTOR MATERIALS/IT
L57           1 SEA ABB=ON  PLU=ON  L36 AND L56
                D SCAN
L58         834 SEA ABB=ON  PLU=ON  L36 AND L47
L59           3 SEA ABB=ON  PLU=ON  L58 AND L50
                D SCAN


     FILE 'HCA' ENTERED AT 10:19:01 ON 23 SEP 2003
L60      450055 SEA ABB=ON  PLU=ON  L35 OR L17 OR L25 OR L26 OR L7 OR L29
L61        1658 SEA ABB=ON  PLU=ON  L33 AND L60
L62      731863 SEA ABB=ON  PLU=ON  75/SC,SX
L63     1198870 SEA ABB=ON  PLU=ON  76/SC,SX
L64          37 SEA ABB=ON  PLU=ON  L61 AND (L62 OR L63)
L65             QUE ABB=ON  PLU=ON  FILM? OR THINFILM? OR LAYER? OR OVERLAY?
                OR OVERLAID? OR LAMIN? OR LAMEL? OR MULTILAYER? OR SHEET? OR
                LEAF? OR FOIL? OR COAT? OR TOPCOAT? OR OVERCOAT? OR VENEER? OR
                ENWRAP? OR OVERSPREAD?
L66          26 SEA ABB=ON  PLU=ON  L64 AND L65
                D L66 AB
                D L66 2 AB
                D L66 3 AB
L67       30740 SEA ABB=ON  PLU=ON  PHTHALOCYANINE?
L68          18 SEA ABB=ON  PLU=ON  L66 AND L67
L69           8 SEA ABB=ON  PLU=ON  L66 NOT L68
                D SCAN
L70      166666 SEA ABB=ON  PLU=ON  ?DIAMINE
L71           3 SEA ABB=ON  PLU=ON  L69 AND L70
L72           5 SEA ABB=ON  PLU=ON  L69 NOT L71
L73        3422 SEA ABB=ON  PLU=ON  OPTICAL RECORDING MATERIALS/IT
L74        9197 SEA ABB=ON  PLU=ON  (COPPER OR CU)(2A)L67
L75         363 SEA ABB=ON  PLU=ON  L61 AND L74
L76        1295 SEA ABB=ON  PLU=ON  L61 NOT L75
L77           3 SEA ABB=ON  PLU=ON  L61 AND L73
                D SCAN
L78         631 SEA ABB=ON  PLU=ON  L61 AND L70
L79       41080 SEA ABB=ON  PLU=ON  PHENYLENEDIAMINE#
L80          90 SEA ABB=ON  PLU=ON  L61 AND L79
L81         631 SEA ABB=ON  PLU=ON  L61 AND L70
L82         680 SEA ABB=ON  PLU=ON  L76 NOT L81
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     FILE 'LCA' ENTERED AT 11:17:52 ON 23 SEP 2003
L83           2 SEA ABB=ON  PLU=ON  INK?(2A)LITHOGR?

     FILE 'HCA' ENTERED AT 11:19:36 ON 23 SEP 2003
L84         589 SEA ABB=ON  PLU=ON  INK?(2A)LITHOGR?
L85          17 SEA ABB=ON  PLU=ON  L61 AND L84
L86          11 SEA ABB=ON  PLU=ON  L82 AND L84
                D SCAN
L87         606 SEA ABB=ON  PLU=ON  L52 OR L53 OR L54 OR L55 OR L57 OR L59 OR
                L71 OR L72 OR L77 OR L83
L88          17 SEA ABB=ON  PLU=ON  L52 OR L53 OR L54 OR L55 OR L57 OR L59 OR
                L71 OR L72 OR L77
L89       24592 SEA ABB=ON  PLU=ON  RESISTOR?
L90           1 SEA ABB=ON  PLU=ON  L88 AND L89
L91          17 SEA ABB=ON  PLU=ON  L88 OR L90


L92          34 SEA ABB=ON  PLU=ON  L91 OR L66
L94          11 SEA ABB=ON  PLU=ON  L86 NOT (L92 OR L93)
L95          11 SEA ABB=ON  PLU=ON  L86 NOT (L91 OR L66)
L96          17 SEA ABB=ON  PLU=ON  L93 AND L30
L97          11 SEA ABB=ON  PLU=ON  L94 AND L30
L98          11 SEA ABB=ON  PLU=ON  L95 AND L30

     FILE 'HCA' ENTERED AT 11:30:44 ON 23 SEP 2003

=> d L91 1-17 cbib abs hitind hitrn

L91  ANSWER 1 OF 17  HCA  COPYRIGHT 2003 ACS on STN
130:59181  Light-decolorizable recording material, ink, or toner.  Murofushi,
     Katsumi; Hosada, Yoshikazu (Showa Denko K. K., Japan).  U.S. US 5846682 A
     19981208, 36 pp., Cont. of U.S. Ser. No. 336,760, abandoned.  (English).
     CODEN: USXXAM.  APPLICATION: US 1997-799212 19970213.  PRIORITY: US
     1993-24742 19930302; US 1994-336760 19941108.
AB   A light-decolorizable recording material, ink, or toner comprises a
     colored dye having absorptions in the visible light region and a boron
     compd. represented by the general formula B-R1R2R3R4 wherein R1-4 each
     independently represents an alkyl, aryl, allyl, aralkyl, alkenyl, alkynyl,
     silyl, heterocyclic, substituted alkyl, substituted aryl, substituted
     allyl, substituted aralkyl, substituted alkenyl, substituted alkynyl, or
     substituted silyl group, and Z+ represents a quaternary ammonium,
     quaternary pyridinium, quaternary quinolinium or phosphonium
     cation.
IC   ICM  G03G009-09
     ICS  C09D011-00; C08K005-55
NCL  430106000
CC   74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other
     Reprographic Processes)
IT   Electrophotographic toners
       Optical recording materials
       (light-bleachable compns. contg. colored dyes and boron compds. for)
IT   Inks
       (printing; light-bleachable compns. contg. colored dyes and
       boron compds. for)

L91  ANSWER 2 OF 17  HCA  COPYRIGHT 2003 ACS on STN
129:133369  Microporation of tissue for delivery of bioactive agents.
     Eppstein, Jonathan A. (Altea Technologies, Inc., USA; Eppstein, Jonathan
     A.).  PCT Int. Appl. WO 9829134 A2 19980709, 168 pp.  DESIGNATED STATES:
```

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1997-US24127 19971230. PRIORITY: US 1996-778415 19961231; WO 1997-US11670 19970703.

AB A method of enhancing the permeability of a biol. membrane, including the skin or mucosa of an animal or the outer layer of a plant, to a permeant is described which utilizes microporation of selected depth and optionally .gtoreq.1 of sonic, electromagnetic, mech., and thermal energy and a chem. enhancer. Microporation is accomplished to form a micropore of selected depth in the biol. membrane and the porated site is contacted with the permeant. Addnl. permeation enhancement measures may be applied to the site to enhance the flux rate of a permeant, e.g. a drug, into an organism through the micropores and into targeted tissues within the organism; the parameters of these measures can be tailored to act selectively on specific tissue barriers. Microporation can also be used for minimally invasive or noninvasive monitoring of analytes in body fluids by enhancing their outward diffusion to the skin surface. Micropores .ltoreq.1000 .mu.m in diam. are produced by ablating the membrane with a heat source, a microlancet, a beam of sonic energy, a high-pressure jet of fluid, a short pulse of electricity, or a short light pulse emitted e.g. by a laser **diode** and focused on a site treated with a light-absorbing substance to generate heat at the site. The energy source is modulated to minimize sensory perception of the process, e.g. by use of energy pulses alternated with cooling or recovery periods. Pore depth is detd. by measuring the impedance properties of the tissue. Thus, a small drop of Cu **phthalocyanine** suspension in iso-PrOH was evapd. on transparent adhesive tape which was then attached to the skin of a volunteer and irradiated with pulsed laser light to produce a pore in the stratum corneum extending to the epidermis. Interstitial fluid (5 .mu.L) collected from the pore was analyzed for glucose with a glucometer in normal and diabetic subjects. The av. temporal lag between blood and interstitial fluid glucose levels in response to a glucose load was only 6.2 min; an equation relating blood and interstitial fluid glucose levels is presented. In another expt., a soln. contg. lidocaine and a permeation enhancer was applied to a grid of similarly produced micropores in the skin to produce numbness; permeation was further increased by application of ultrasound through a transducer.

IC ICM A61K041-00

CC 9-2 (Biochemical Methods)
Section cross-reference(s): 63

IT **Inks**
(**printing**; microporation of tissue for delivery of bioactive agents)

IT Electroluminescent devices
Laser radiation
Light sources
Semiconductor lasers
(pulsed; microporation of tissue for delivery of bioactive agents)

IT 61-73-4, Methylene blue 147-14-8, Copper **phthalocyanine** 632-99-5, Fuchsine 25655-41-8, Betadine 210416-04-9, Epolite 67
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(microporation of tissue for delivery of bioactive agents)

L91 ANSWER 3 OF 17 HCA COPYRIGHT 2003 ACS on STN
127:286885 Anisotropic etching of silicon wafer and electric apparatus using

the etched wafer. Yotsuya, Shinichi (Seiko Epson Corp., Japan). Jpn. Kokai Tokkyo Koho JP 09246234 A2 19970919 Heisei, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-55208 19960312.

AB The title method involves utilization of an etchant contg. .gtoreq.2 bases such as hydroxides to obtain a smooth etched surface. The wafer is useful for an elec. app. such as an **ink-jet** printer head of pressure sensor.

IC ICM H01L021-306
ICS B41J002-16; G01L001-18; H01L029-84

CC 76-3 (Electric Phenomena)
Section cross-reference(s): 74

IT Printing apparatus
(**ink-jet** head; anisotropic etching of silicon wafer for)

IT **Semiconductor materials**
(silicon wafer; anisotropic etching of)

IT 75-59-2, Tetramethylammonium hydroxide 107-15-3, **Ethylenediamine**, processes 120-80-9, Pyrocatechol, processes 302-01-2, Hydrazine, processes 1310-58-3, Potassium hydroxide, processes 7664-41-7, Ammonia, processes
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(anisotropic etchant for silicon wafer)

L91 ANSWER 4 OF 17 HCA COPYRIGHT 2003 ACS on STN

126:278959 **Phthalocyanine** or naphthalocyanine colorants, their preparation and their use. Yamasaki, Yasuhiro (Orient Chemical Industries, Ltd., Japan). Eur. Pat. Appl. EP 763539 A2 19970319, 18 pp. DESIGNATED STATES: R: CH, DE, FR, GB, LI. (English). CODEN: EPXXDW. APPLICATION: EP 1996-114626 19960912. PRIORITY: JP 1995-236774 19950914.

AB A green or near-IR-light-absorbing water-sol. **phthalocyanine** or naphthalocyanine deriv. with 4 or 8 2-sulfobenzamido and 0-12 halogen substituents is obtained from the appropriate amine and o-sulfobenzoic anhydride. The colorants may be used in aq. **jet-ink printing inks**, color filters, or photorecording materials. The colorants have excellent water resistance after dyeing.

IC ICM C07D487-22
ICS C09B047-22; C09D011-00; G02B005-22; G11B007-24

ICI C07D487-22, C07D259-00, C07D209-00

CC 41-7 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 42, 74

ST **phthalocyanine** colorant sulfobenzamido deriv; naphthalocyanine colorant sulfobenzamido deriv

IT **Inks**
(**jet**-printing, water-thinned; prepn. of **phthalocyanine** and naphthalocyanine colorants for)

IT Dyes
Pigments, nonbiological
(prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)

IT Optical filters
Optical recording materials
(prepn. of **phthalocyanine** and naphthalocyanine colorants for)

IT 14654-63-8P, Copper 4-tetraaminophthalocyanine 28632-29-3P, Copper tetranitrophthalocyanine 28703-58-4P, Copper tetraaminotetrachlorophthalocyanine 95652-88-3P, Tetra-4-aminophthalocyanine 189036-52-0P 189036-54-2P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(intermediate; prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)

IT 189036-39-3P, Copper tetrakis(4-(2-sulfobenzamido)**phthalocyanine**) 189036-43-9P, Tetrakis(4-(2-sulfobenzamido)**phthalocyanine**) 189036-47-3P 189036-50-8P 189036-53-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)

IT 7758-89-6, Cuprous chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)

IT 81-08-3, o-Sulfobenzoic anhydride 89-40-7, 4-Nitrophthalimide 6015-57-2, 4-Chloro-5-Nitrophthalimide 31643-49-9, 4-Nitrophthalonitrile 184026-06-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)

L91 ANSWER 5 OF 17 HCA COPYRIGHT 2003 ACS on STN

122:43751 Fabrication of vertical sidewalls by anisotropic etching of silicon (100) wafers. Zavracky, Paul M.; Earles, Tom; Pokrovskiy, Nikolay L.; Green, John A.; Burns, Brent E. (Dep. Electrical and Computer Engineering, Northeastern Univ., Boston, MA, 02115, USA). Journal of the Electrochemical Society, 141(11), 3182-8 (English) **1994**. CODEN: JESOAN. ISSN: 0013-4651. Publisher: Electrochemical Society.

AB Silicon bulk micromachining using anisotropic etching has become an established method for producing micromech. structures in silicon. Com. applications for micromachining include pressure sensors, accelerometers, optical spectrometers, and **ink jet** nozzles. Typically, silicon (111) planes etch at a much slower rate than the (100) planes in certain etchants. These included potassium hydroxide (KOH), ethylene **diamine** pyrocatechol (EDP), sodium hydroxide (NaOH), ammonium hydroxide (NH4OH), cesium hydroxide (CsOH), tetra-Me ammonium hydroxide (TMAH), and hydrazine (N2H4). Due to its anisotropy, reported to be as high as 400:1 [(100):(111)], high etch rate (4 .mu.m/min), and safety considerations, KOH remains the most widely used silicon anisotropic etchant. In this paper, the authors report the use of KOH to create silicon microstructures with vertical sidewalls on (100) wafers.

CC 76-3 (Electric Phenomena)

IT **Semiconductor devices**
(microscale, potassium hydroxide etchant in creation of silicon microstructures with vertical sidewalls on (100) wafers)

L91 ANSWER 6 OF 17 HCA COPYRIGHT 2003 ACS on STN

121:243427 Method and apparatus for producing a thin-**film resistor**. Koyama, Shuji; Kawajiri, Yukio; Shibata, Makoto; Sueoka, Manabu; Suzuki, Toshio; Yamamoto, Hisashi; Suzuki, Takumi (Canon K. K., Japan). Eur. Pat. Appl. EP 603782 A2 **19940629**, 22 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1993-120507 19931220. PRIORITY: JP 1992-340758 19921221.

AB An Al **layer** of wiring material is etched using an alk. aq. soln. There are provided a method for producing a thin-**film resistor**, in which only the Al **layer** can be selectively etched independent of a heating **resistor layer**, esp. for an **ink-jet** printing head, using the alk. aq. soln., an anti-sticking means for **film**-forming app. having the structure which can prevent a drop in yield due to particles, even with

less frequency of cleaning of the **film**-forming chamber, and a **film**-forming app. provided with the anti-sticking means. When the wiring electrode **layer** mainly contg. Al is etched by the alk. aq. soln., only the Al **layer** can be selectively etched without etching the **resistor layer**, which can reduce the change in resistance of the **resistor**, improve the yield and the productivity, and raise the reliability of the thin-**film resistor**. Also, when the anti-sticking means, having a tongued-and-grooved surface, is set in the **film**-forming chamber of the **film**-forming app., the **film**-forming material is deposited in a discontinuous manner on the anti-sticking means, which can delay the time of **film** exfoliation, in turn extend the cycle of cleaning for the anti-sticking plate, and prevent the drop in yield due to **film** exfoliation.

IC ICM H01C007-00
ICS H01C017-06; B41J002-05

CC **76-2** (Electric Phenomena)
Section cross-reference(s): 74

ST thin **film resistor** prodn; aluminum wiring etching thin **film resistor**; heating **resistor ink jet** printing head

IT Electric conductors
(etching of Al wiring material in prodn. of thin-**film resistors**)

IT Etching
(of Al wiring material in prodn. of thin-**film resistors**)

IT Heating systems and Heaters
(elec., etching of Al wiring material in prodn. of thin-**film resistors**)

IT Electric **resistors**
(**film**, method and app. for prodn. of)

IT Printing apparatus
(**ink-jet**, heads, thin-**film resistor** prodn. for)

IT 75-59-2, Tetramethylammonium hydroxide 107-15-3, **Ethylenediamine**, processes 1310-58-3, Potassium hydroxide (KOH), processes 1310-73-2, Sodium hydroxide (NaOH), processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(etchant; etching of Al wiring material in prodn. of thin-**film resistors**)

IT 7429-90-5, Aluminum, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(etching of Al wiring material in prodn. of thin-**film resistors**)

IT 7439-89-6, Iron, processes 7440-02-0, Nickel, processes 7440-03-1, Niobium, processes 7440-05-3, Palladium, processes 7440-21-3, Silicon, processes 7440-22-4, Silver, processes 7440-25-7, Tantalum, processes 7440-32-6, Titanium, processes 7440-48-4, Cobalt, processes 7440-57-5, Gold, processes 7440-58-6, Hafnium, processes 7440-67-7, Zirconium, processes 7440-74-6, Indium, processes 12007-23-7, Hafnium boride (HfB2) 12033-62-4, Tantalum nitride 12741-10-5, Zirconium boride 37239-25-1, Aluminum, tantalum
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(etching of Al wiring material in prodn. of thin-**film**

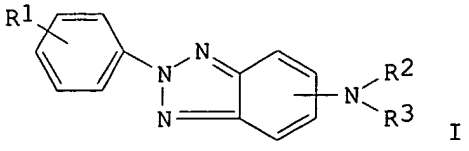
resistors from)

L91 ANSWER 7 OF 17 HCA COPYRIGHT 2003 ACS on STN
120:79675 Thermal transfer recording sheet workable with infrared heating. Murata, Jukichi; Kawana, Makoto; Urano, Toshoshi; Kurose, Yutaka (Mitsubishi Chem Ind, Japan). Jpn. Kokai Tokkyo Koho JP 05169838 A2 **19930709** Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-337305 19911219.
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title sheets contain an ink layer contg. thermally transferable dyes and IR absorbing **materials** such as (na)**phthalocyanine** compds. I [R1-4 = (un)substituted alkyl, (C2H4O)nY, Q; A = metal; X = halogen; Y = H, aryl, (un)substituted alkyl; n = 1-4; m = 0, 1, 2; Z = H, carboxy, carboxy ester, aryl, (un)substituted alkyl, alkoxy]. A typical ink comprising I (naphthalocyanine, A = VO; R1-4 = tetrahydrofurfuryl; RO at the 5-positions) 2, 1,1,2-tricyano-2-[p-(ethylbutylamino)phenyl]ethylene 8, cellulose acetate 10, and MEK 80 g was used with **semiconductor** laser light (830 nm) to give a magenta image with d. 1.30.
IC ICM B41M005-30
CC 42-12 (Coatings, Inks, and Related Products)
ST laser thermal transfer ink **phthalocyanine**; naphthalocyanine laser thermal transfer ink; IR absorber **phthalocyanine** naphthalocyanine
IT Optical **materials**
(IR absorbers, (na)**phthalocyanine** compds., in thermal transfer inks workable with IR heating)
IT **Inks**
(**printing**, thermal-transfer, contg. IR absorbers, workable with **semiconductor** IR heating)
IT 152545-92-1 152545-93-2 152545-94-3 152545-95-4 152691-65-1
RL: USES (Uses)
(IR absorbers, in thermal transfer inks workable with **semiconductor** IR heating)

L91 ANSWER 8 OF 17 HCA COPYRIGHT 2003 ACS on STN
119:140767 Prepreg **laminates** for electrical devices. Murai, Akira; Yokozawa, Shunya; Hibino, Toshiyuki; Takeda, Yoshiyuki; Eda, Tetsuo (Hitachi Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 05004296 A2 **19930114** Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-170269 19910711. PRIORITY: JP 1990-260878 19900928.
GI



I

AB The title **laminates**, printable with UV-curable resist inks, are composed of prepregs of matrix resin contg. benzotriazoles I (R1 = C1-6

alkyl; R2-3 = H, C1-6 alkyl) or pyrazolines and optionally coumarin compds. Thus, a **laminate** was prepd. from prepregs of glass cloths impregnated with an epoxy resin contg. 0.2 phr 2-(4'-methylphenyl)-5-N,N-**diethylaminobenzotriazole**.

IC ICM B32B005-28
ICS B32B007-02; B32B015-08; C08K005-15; C08K005-3445; C08K005-3475; H05K001-03

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): **76**

ST epoxy resin prepreg **laminate methylphenyldiethylaminobenzot riazole**; pyrazoline epoxy resin prepreg **laminate**; coumarin **benzotriazole** epoxy prepreg **laminate**

IT Epoxy resins, uses
RL: USES (Uses)
(contg. benzotriazoles or pyrazolines, for UV-curable resist **ink-printable** prepreg **laminates**)

IT Electric circuits
(printed, boards, prepreg **laminates** contg. benzotriazoles or pyrazolines for, UV-curable resist **ink-printable**)

IT 91-44-1
RL: USES (Uses)
(epoxy resins contg. benzotriazoles or pyrazolines and, for UV-curable resist **ink-printable** prepreg **laminates**)

IT 136578-84-2 149902-43-2
RL: USES (Uses)
(epoxy resins contg., for UV-curable resist **ink-printable** prepreg **laminates**)

L91 ANSWER 9 OF 17 HCA COPYRIGHT 2003 ACS on STN

118:82915 Actinic radiation-curable, highly filled compositions for electrical and electronic components. Lucey, Michael (USA). U.S. US 5134175 A **19920728**, 14 pp. Cont. of U.S. Ser. No. 133,497, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1990-620378 19901129. PRIORITY: US 1987-133497 19871216.

AB Agglomeration-free title compns., useful for **coating** or potting title components or as **printing inks**, contain vinyl prepolymers, vinyl monomers, photoinitiators, .gtoreq.1 filler or pigment (for inks), and .gtoreq.1 surfactant with mol. wt. >227, with 1 of the surfactants or fillers/pigments having an overall pH .gtoreq.7, the other surfactant(s) or filler(s)/pigment(s) having pH <7, and the overall pH of the surfactant(s) being <7 when the overall pH of the filler(s)/pigment(s) is >7. Thus, Ta capacitor was dip-**coated** with a compn. contg. epoxy acrylate 5.5, dicyclopentenyl acrylate 6, trimethylolpropane triacrylate 6.5, wetting agent 0.8, photoinitiator/sensitizers 4.5, Gafac RE610 (phosphate acid ester) surfactant 1.3, flame retardants 7.7, 400 Nyad-10024 (silane-treated wollastonite) filler 66, pigment 0.5, peroxide 1, and bubble breaker 0.1%, and the **coated** capacitor was cured with UV light and thermally postcured to give a capacitor with 250-.mu.m **coating**, that exhibited capacitance 48.4 and 49.52 .mu.F, dissipation factor 3.6 and 3.8%, and elec. series resistance 0.99 and 1.04 .OMEGA., before and after 1000 h at 85.degree. and 95% relative humidity, resp. (0.5 V, 120 Hz).

IC ICM C08K003-00
ICS C08F002-46

NCL 522076000

CC 42-5 (Coatings, Inks, and Related Products)
Section cross-reference(s): 36, **76**

ST filler rich **coating** elec component; **printing ink** photocurable; potting photocurable; trimethylolpropane triacrylate **coating** highly filled; dicyclopentenyl acrylate

photocurable **coating**; calcium metasilicate filler **coating**; phosphate surfactant highly filled **coating**; epoxy acrylate **coating** highly filled; photocurable elec insulating **coating**

IT Surfactants
(**coatings** and pottings contg., highly filled photocured, with pH control)

IT Pigments
(surfactant dispersants for, in photocurable **printing inks**)

IT Epoxy resins, compounds
RL: USES (Uses)
(acrylates, **coatings** and pottings, elec.-insulating highly filled photocured, contg. surfactants with certain pH)

IT Electric insulators and Dielectrics
(**coatings**, photocured, highly filled, contg. surfactants with certain pH)

IT **Inks**
(**printing**, photocurable, contg. surfactants with certain pH)

IT 7440-25-7, Tantalum, properties
RL: PRP (Properties)
(capacitors, elec.-insulating photocured **coatings** for, highly filled)

IT 145919-29-5 145919-30-8
RL: USES (Uses)
(**coatings** and pottings, highly filled elec.-insulating photocured, contg. surfactants with certain pH)

IT 145552-50-7 145919-28-4
RL: TEM (Technical or engineered material use); USES (Uses)
(**coatings**, highly filled elec.-insulating photocured, contg. surfactants with certain pH)

IT 2530-85-0
RL: USES (Uses)
(fillers treated by, elec.-insulating photocured **coatings** contg. high concns. of, surfactants for)

IT 144747-19-3, Nyad 400-10024
RL: USES (Uses)
(fillers, elec.-insulating photocured **coatings** contg. high concns. of, surfactants for)

IT 8007-18-9, C.I. Pigment Yellow 53
RL: USES (Uses)
(pigments, Yellow V9400, for photocurable **printing inks**, surfactant dispersants for)

IT 1314-98-3, Zinc sulfide, uses 13463-67-7, Titania, uses 144746-80-5, Ferro Black F 2302 144746-81-6, Ferro Blue F 5203 144746-82-7, Ferro Brown F 6114 144746-83-8, Ferro Green V 7687
RL: USES (Uses)
(pigments, for photocurable **printing inks**, surfactant dispersants for)

IT **13983-17-0**, Wollastonite (Ca(SiO3))
RL: USES (Uses)
(silane-treated, fillers, elec.-insulating photocured **coatings** contg. high concns. of, surfactants for)

IT 51811-79-1
RL: USES (Uses)
(surfactants, for highly filled elec.-insulating photocurable **coatings**)

IT **13983-17-0**, Wollastonite (Ca(SiO3))
RL: USES (Uses)
(silane-treated, fillers, elec.-insulating photocured **coatings**

contg. high concns. of, surfactants for)

L91 ANSWER 10 OF 17 HCA COPYRIGHT 2003 ACS on STN
117:173523 Electrically conductive pastes containing copper powder and polymers. Oba, Yoichi; Enokido, Masafumi; Iwasayama, Masaru (Asahi Chemical Research Laboratory Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 04145171 A2 **19920519** Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-269940 19901008.
AB Pastes useful in screen-printing of printed circuits contain reaction products of higher fatty acids and/or soaps with alkanolamines and/or heterocyclic N compds. Thus, a paste contg. powd. Cu 85, synthetic resin 23.6, linoleic acid 2, and N-cyclohexyldiethanolamine 2.55 g was printed on an epoxy resin-Cu **laminate** and cured at 150.degree. for 15 min to give a **film** with elec. resistance 38 m.OMEGA./square.
IC ICM C09D005-24
ICS H01B001-22; H05K001-09
CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): **76**
ST elec conductor **printing ink**; fatty acid adduct ink; linoleic acid adduct ink; amino alc adduct ink; cyclohexyliminodiethanol adduct ink; copper powder ink conductive; circuit board ink conductive
IT Alcohols, compounds
RL: USES (Uses)
(amino, reaction products, with fatty acids, in elec. conductive **printing inks**)
IT Heterocyclic compounds
RL: USES (Uses)
(nitrogen, reaction products, with fatty acids, in elec. conductive **printing inks**)
IT **Inks**
(**printing**, elec. conductive, for printed circuit boards, formulation of)
IT Fatty acids, compounds
RL: USES (Uses)
(reaction products, with amines, in elec. conductive **printing inks**)
IT 7727-37-9
RL: USES (Uses)
(heterocyclic compounds, nitrogen, reaction products, with fatty acids, in elec. conductive **printing inks**)
IT 60-33-3D, Linoleic acid, reaction products with amines 91-22-5D, **Quinoline**, reaction products with fatty acids 102-79-4D, N-Butyldiethanolamine, reaction products with fatty acids 119-65-3D, Isoquinoline, reaction products with fatty acids 122-20-3D, 1,1',1''-Nitrilotri-2-propanol, reaction products with fatty acids 463-40-1D, Linolenic acid, reaction products with amines 557-07-3D, Zinc oleate, reaction products with amines 4500-29-2D, reaction products with fatty acids
RL: USES (Uses)
(in elec. conductive **printing inks**)
IT 7440-50-8, Copper, uses
RL: USES (Uses)
(powd., in elec. conductive **printing inks**)

L91 ANSWER 11 OF 17 HCA COPYRIGHT 2003 ACS on STN
117:71845 Polycaprolactone-polyurea-polyurethane inks for printed circuit boards. Yano, Hitoshi; Kikuta, Kazutsune; Konotsune, Shiro (Chisso K. K., Japan). Jpn. Kokai Tokkyo Koho JP 04050271 A2 **19920219** Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-160428 19900619.
AB Title inks comprise polycaprolactone-**diamine**-diisocyanate

copolymer 100, novolak epoxy resins 30-300, thixotropic agents 0.2-20, defoaming agents 0.3-30, leveling agents 0.2-10, and optionally flexibility improvers 3-100 parts. Thus, a ink of polycaprolactone diol-MDI-4,4'-diaminodiphenylsulfone copolymer 100, DEN 438 30, aerosil 300 2, DB 100 3.9, and Paintad 57 1.3 parts showed good storage stability (6 mo, room temp.) and gave a 21-.mu.m **film** with good flexibility and heat resistance.

IC ICM C09D011-10
ICS C09D011-02; C09D011-10

CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): **76**

IT **Inks**
(**printing**, polycaprolactone-polyurea-polyurethanes, for printed circuit boards, heat-resistant, flexible)

L91 ANSWER 12 OF 17 HCA COPYRIGHT 2003 ACS on STN

115:77592 A comparison of thick- and thin-film gas-sensitive organic **semiconductor** compounds. Cranny, A. W. J.; Atkinson, J. K.; Burr, P. M.; Mack, D. (Dep. Electron. Comput. Sci., Univ. Southampton, Southampton, SO9 5NH, UK). Sensors and Actuators, B: Chemical, B4(1-2), 169-74 (English) **1991**. CODEN: SABCEB. ISSN: 0925-4005.

AB The use of metal-based **phthalocyanines** in the construction of an array of gas-sensitive elements was explored. A 5-element array was developed in which each of the sensor sites has an individual Pt heating element for independent temp. control. In this way, the array can consist of different **phthalocyanines** and/or operating temps., allowing pattern-recognition techniques to be used in the detection of specific gases. The sensor array was realized as a 28 pin dual in-line package based on an Al2O3 substrate with laser scribed slots to give thermal isolation of adjacent sites. Two methods of **phthalocyanine** deposition were investigated; a thin-film method utilizing low-pressure vapor deposition to give a sensor thickness of typically 1 .mu.m, and a thick-film method whereby the **phthalocyanine** is made into a screen-**printable ink**, producing a typical sensor thickness of 15-20 .mu.m. The sensors produced by the 2 methods exhibit distinct morphol. differences which significantly affect their resp. sensitivities. The more porous thick-film sensors have sensitivities comparable to that of their thin-film counterparts. These results support the theory that the conduction mechanisms in org. **semiconductor** gas sensors are primarily diffusion limited. Of the two fabrication methods described, the thick-film screen-printing technique is far more conductive to vol. manuf.

CC 59-1 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 47, 76, 79

ST **semiconductor** gas sensor lead **phthalocyanine**; thick thin film **semiconductor** gas sensor

IT Air analysis
(nitrogen dioxide detection in, by **semiconductor** gas sensors, thick vs. thin lead **phthalocyanine** films for)

IT **Semiconductor devices**
(gas sensors, lead **phthalocyanine** thick vs. thin films for)

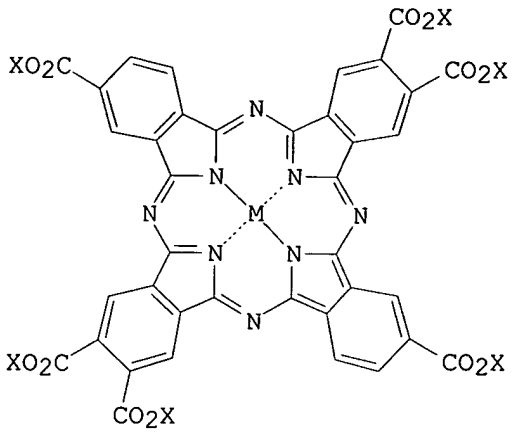
IT 10102-44-0, Nitrogen dioxide, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detection of, in air, by **semiconductor** gas sensors, lead **phthalocyanine** thick vs. thin films for)

IT 15187-16-3, Lead **phthalocyanine**
RL: OCCU (Occurrence)
(thick vs. thin films of, for **semiconductor** gas sensors)

L91 ANSWER 13 OF 17 HCA COPYRIGHT 2003 ACS on STN

114:44942 **Phthalocyanine** dyes for optical recording materials. Aoki, Nobuo; Kurita, Jun; Kiriyu, Toshiyuki; Ebisawa, Makoto (Japan Carlit Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02187468 A2 **19900723** Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-6047 19890117.

GI



I

AB The title dyes I (M = metal, metal oxide, metal halide; X = H, cation), which absorb in the near IR region, are useful for optical recording disks and jet-**printing inks**. Thus, pyromellitic anhydride 87.2, trimellitic anhydride 76.8, CuCl2 71.6, urea 720, and ammonium molybdate 24.8 parts were heated at 160-170.degree. for 1 h, heated at 100.degree. in the presence of aq. KOH for 24 h to give 85 parts Cu phthalocyaninehexacarboxylic acid, which dissolved in 0.1% aq. KOH at .gtoreq.5% and showed .lambda.max 684 nm.

IC ICM C09B047-24
ICS B41M005-26; C07D487-22; G03G005-06

CC 41-7 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 42, 74

ST copper phthalocyaninehexacarboxylate prepn dye; **phthalocyanine** dye optical recording material; jet **printing ink** **phthalocyanine** dye

IT **Inks**
(**jet**-printing, dyes for, metal phthalocyaninehexacarboxylates as, water-sol.)

IT Dyes
(water-sol., metal phthalocyaninehexacarboxylates, for optical recording app. and jet **printing inks**)

IT 130949-71-2P 130949-72-3P 130949-73-4P 130949-74-5P 130971-08-3P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of, as near IR dyes for **optical recording materials** and jet-**printing inks**)

L91 ANSWER 14 OF 17 HCA COPYRIGHT 2003 ACS on STN
104:234335 Lithographic printing plate. Naganuma, Tsutomu; Hirayama, Sigeru; Kumagai, Hiroji; Sawada, Manabu; Tanaka, Tsuneo; Kumano, Isao (Toppan Printing Co., Ltd. , Japan; Toyo Ink Mfg. Co., Ltd.). Ger. Offen. DE 3423141 A1 **19860102**, 22 pp. (German). CODEN: GWXXBX.

APPLICATION: DE 1984-3423141 19840622.

AB An electrophotog. lithog plate, not having the disadvantages of com. master papers based on ZnO, consists of an elec. conductive support coated with a photoconductive layer composed of a mixt. with .ltoreq.50 wt.% of a **phthalocyanine** pigment/(ZnO + ZnS) mixt. in a binder resin. The plate is charged, imagewise exposed to long wavelength light from a **semiconductor** laser, developed with a **printing ink**-receptive toner, and fixed. Thus, Cu **phthalocyanine**, Cu tetranitrophthalocyanine, Lionol Blue ER, KR-211, Aron S 1001, ZnO, ZnS, and PhMe were dispersed, the dispersion dild. with PhMe, coated on an Al support, dried, laser exposed, and developed to give a printing plate capable of producing 10,000 prints.

IC ICM G03G013-28
ICS G03G005-04

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST electrophotog photoreceptor lithog plate; **phthalocyanine** pigment electrophotog lithog plate; zinc sulfide electrophotog lithog plate; oxide zinc electrophotog lithog plate; sulfide zinc electrophotog lithog plate

IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(electrophotog. photoreceptor with photoconductive layer contg. **phthalocyanine** pigment and zinc oxide and, for lithog. plate fabrication)

IT Lithographic plates
(electrophotog. photoreceptors contg. **phthalocyanine** pigment-zinc oxide-binder **compn**. for fabrication of)

IT Photography, electro-, plates
(with photoconductive layer contg. **phthalocyanine** pigment and zinc oxide for lithog. plate fabrication)

IT Vinyl acetal polymers
RL: USES (Uses)
(butyrals, electrophotog. photoreceptor with photoconductive layer contg. **phthalocyanine** pigment and zinc oxide and, for lithog. plate fabrication)

IT 1314-98-3, uses and miscellaneous 55068-91-2
RL: USES (Uses)
(electrophotog. photoreceptor with photoconductive layer contg. **phthalocyanine** pigment and zinc oxide and, for lithog. plate fabrication)

L91 ANSWER 15 OF 17 HCA COPYRIGHT 2003 ACS on STN

87:176485 Circuit board. Bolon, Donald A.; Lucas, Gary M.; Bartholomew, Ralph L. (General Electric Co., USA). U.S. US 4049844 **19770920**, 8 pp. Division of U.S. 3,988,647. (English). CODEN: USXXAM. APPLICATION: US 1976-670044 19760324.

AB A circuit board is manufd. by steps including the screen printing of a radiation-curable ink onto the surface of a substrate followed by radiation of the ink. Certain radiation curable org. resins (e.g. a polyester resin-styrene mixt.), which include UV curable resins, can be used with certain particulated elec. conductive metal or particulated metal-contg. material to produce a radiation-curable ink which is rendered conductive upon cure. The shape of the particulated conductive material is crit. Spherical, spheroidal, or oblong spherical particles are preferred. A circuit board array suitable for a multistep flash unit for sequential firing of flash bulbs is described. The switch compn. comprises a mixt. of Ag oxide and Ag carbonate and contains an effective amt. of **benzotriazole** for stability.

IC B05D005-06
NCL 427054000

CC **76-14** (Electric Phenomena)
ST flash lamp circuit board; radiation curable **ink printed** circuit; UV curable **ink printed** circuit
IT Soybean oil
RL: USES (Uses)
(epoxidized, acrylates, polymers with ethylhexyl acrylate, radiation-curable ink for printed circuits from silver-**coated** glass spheres and)
IT Epoxy resins, uses and miscellaneous
Polyesters, uses and miscellaneous
RL: USES (Uses)
(radiation-curable ink for printed circuits from silver-**coated** glass spheres and)
IT Glass, oxide
RL: USES (Uses)
(beads, radiation-curable inks from resins and silver-**coated**, for printed circuits)
IT 103-11-7D, polymer with epoxidized soybean oil acrylates 53895-44-6
60054-37-7
RL: USES (Uses)
(radiation-curable ink for printed circuits from silver-**coated** glass spheres and)
IT 7440-22-4, uses and miscellaneous
RL: USES (Uses)
(radiation-curable inks from resins and glass beads **coated** with, for printed circuits)

L91 ANSWER 16 OF 17 HCA COPYRIGHT 2003 ACS on STN
84:137410 Electrically conductive **coating** compositions. Ohtagaki, Kazumasa; Yamasato, Hiroyuki (Fujikura Kasei Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 51010839 **19760128** Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1974-81190 19740717.
AB Elec. conductive **coating** compns. with good soldering properties were prepd. from compns. comprising a guanamine resin 5-10, an alkyd resin 5-10, a Ag [7440-22-4] powder (flake shape, particle diam. .ltoreq.10.mu.) 10-50, a Ag powder (spherical shape, particle diam .ltoreq.10.mu.) 50-90, and stearic acid (I) [57-11-4] 1-3 parts. Thus, a Ag powder (flake shape, .ltoreq.10.mu.) 10, a Ag powder (spherical shape, .ltoreq.10.mu.) 90, a com. alkyd resin varnish (60% solids) 8, a com. guanamine resin (55% solids) 18, I 1, and diethylene glycol monobutyl ether acetate 20 parts were ball milled to give a **printing ink**, which was screen printed on a phenolic resin board to give a printed **film**. A Sn-plated Cu wire was soldered at 200-10.degree. with 6:4 Sn-Pb solder contg. 3% Ag on the printed **film**.
IC C09D
CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): **76**
ST elec conductive **coating** compn; silver powder resin varnish; soldering property **printing ink**; guanamine resin varnish; circuit board **printing ink**
IT Electric conductors
(alkyd.-guanamine resin **coatings**, contg. silver)
IT **Coating** materials
(alkyd.-guanamine resins, contg. silver powder, elec. conductive)
IT 1,3,5-Triazine-2,4-**diamine**, resins
RL: TEM (Technical or engineered material use); USES (Uses)
(**coatings**, contg. silver, electrically conductive)
IT 7440-22-4, uses and miscellaneous
RL: USES (Uses)
(alkyd.-guanamine resin **coatings** contg. powder, elec.

conductive)
IT 57-11-4, uses and miscellaneous
RL: USES (Uses)
(alkyd.-guanamine resin **coatings** contg., elec. conductive)

L91 ANSWER 17 OF 17 HCA COPYRIGHT 2003 ACS on STN
84:98551 Printed structures, especially printed circuits, and **printing inks** for the process. Lipson, Melvin A.; Knoth, Dale W. (Dynachem Corp., USA). Ger. Offen. DE 2522057 **19751127**, 34 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1975-2522057 19750517.
AB In prepn. of a printed circuit, a substrate is screen-printed with a liq. photopolymerizable ink to produce a photopolymerizable **film** .gtoreq.0.01 mm thick in a desired pattern. The **film** is exposed to actinic radiation, whereby it is hardened to form an etch resist. The areas of the substrate not covered by the resist **film** are modified by etching or by depositing a material on them, and the etch resist is stripped off. The ink consists of an addn.-polymerizable material contg. a hydroxyalkyl acrylate, a preformed polyester binder, and a free-radical-forming system which initiates the addn. polymn. Thus, a screen-**printing ink** which forms an etch resist which can be used in alk. and acid etching and electroplating baths had the following compn.: polymerizable material (hydroxyethyl methacrylate and trimethylolpropane triacrylate in a 1:1 ratio) 28.4; polyester binder (condensation polymer of propylene glycol and phthalic anhydride with a mol. wt. of 3000-5000 and an acid no. of 60-90) 35.2, itaconic acid 2.5 benzoin isobutyl ether 4.2, filler (BaSO4) 28.5, **coating** aid (Modaflow) 0.8, **benzotriazole** 0.08, and phthalo blue pigment 0.15 wt. %. The compn. had an acid no. of 75, a viscosity of 650 P, and a thixotropy index of 1.03. This compn. was screen printed in a pattern on a Cu-plated glass-fiber-reinforced epoxy resin board to form a **layer** 0.25 mm thick. The wet **coating** was illuminated 5 sec with a 200-W medium-pressure Hg vapor lamp, whereby the **coating** was completely hardened and formed an etch resist. The boards were then subjected to FeCl3 etching, alk. etching, and electroplating in CuSO4, Cu pyrophosphate, Cu fluoroborate, and Sn Pb (60/40) fluoroborate baths. The etch resist remained hard and free of tackiness through all these treatments. Then the etch resist was stripped off in a 3% NaOH soln. at 55.degree.. The finished pattern showed excellent agreement with the screen-printed pattern.
IC G03F; B41M; H05K
CC **76-14** (Electric Phenomena)
Section cross-reference(s): 74
ST polyester photopolymer; printed circuit ink; screen printed circuit; hydroxyalkyl acrylate; screen printing printed circuit; polyester photopolymer ink screen printing; hydroxyalkyl acrylate screen **printing ink**
IT Electric circuits
(printed, photopolymerizable screen-**printing inks** for manuf. of)

=> d L91 1-17 ti

L91 ANSWER 1 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Light-decolorizable recording material, ink, or toner

L91 ANSWER 2 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Microporation of tissue for delivery of bioactive agents

L91 ANSWER 3 OF 17 HCA COPYRIGHT 2003 ACS on STN

TI Anisotropic etching of silicon wafer and electric apparatus using the etched wafer

L91 ANSWER 4 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI **Phthalocyanine** or naphthalocyanine colorants, their preparation and their use

L91 ANSWER 5 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Fabrication of vertical sidewalls by anisotropic etching of silicon (100) wafers

L91 ANSWER 6 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Method and apparatus for producing a thin-**film resistor**

L91 ANSWER 7 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Thermal transfer recording sheet workable with infrared heating

L91 ANSWER 8 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Prepreg **laminates** for electrical devices

L91 ANSWER 9 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Actinic radiation-curable, highly filled compositions for electrical and electronic components

L91 ANSWER 10 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Electrically conductive pastes containing copper powder and polymers

L91 ANSWER 11 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Polycaprolactone-polyurea-polyurethane inks for printed circuit boards

L91 ANSWER 12 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI A comparison of thick- and thin-film gas-sensitive organic **semiconductor** compounds

L91 ANSWER 13 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI **Phthalocyanine** dyes for optical recording materials

L91 ANSWER 14 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Lithographic printing plate

L91 ANSWER 15 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Circuit board

L91 ANSWER 16 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Electrically conductive **coating** compositions

L91 ANSWER 17 OF 17 HCA COPYRIGHT 2003 ACS on STN
TI Printed structures, especially printed circuits, and **printing inks** for the process

=> d L91 1,4,5-6,8-17 cbib abs hitind hitrn

L91 ANSWER 1 OF 17 HCA COPYRIGHT 2003 ACS on STN
130:59181 Light-decolorizable recording material, ink, or toner. Murofushi, Katsumi; Hosada, Yoshikazu (Showa Denko K. K., Japan). U.S. US 5846682 A 19981208, 36 pp., Cont. of U.S. Ser. No. 336,760, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1997-799212 19970213. PRIORITY: US 1993-24742 19930302; US 1994-336760 19941108.
AB A light-decolorizable recording material, ink, or toner comprises a

colored dye having absorptions in the visible light region and a boron compd. represented by the general formula B-R1R2R3R4 wherein R1-4 each independently represents an alkyl, aryl, allyl, aralkyl, alkenyl, alkynyl, silyl, heterocyclic, substituted alkyl, substituted aryl, substituted allyl, substituted aralkyl, substituted alkenyl, substituted alkynyl, or substituted silyl group, and Z+ represents a quaternary ammonium, quaternary pyridinium, quaternary **quinolinium** or phosphonium cation.

IC ICM G03G009-09
ICS C09D011-00; C08K005-55
NCL 430106000
CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT Electrophotographic toners
Optical recording materials
(light-bleachable compns. contg. colored dyes and boron compds. for)
IT **Inks**
(**printing**; light-bleachable compns. contg. colored dyes and boron compds. for)

L91 ANSWER 4 OF 17 HCA COPYRIGHT 2003 ACS on STN
126:278959 **Phthalocyanine** or naphthalocyanine colorants, their preparation and their use. Yamasaki, Yasuhiro (Orient Chemical Industries, Ltd., Japan). Eur. Pat. Appl. EP 763539 A2 19970319, 18 pp. DESIGNATED STATES: R: CH, DE, FR, GB, LI. (English). CODEN: EPXXDW. APPLICATION: EP 1996-114626 19960912. PRIORITY: JP 1995-236774 19950914.

AB A green or near-IR-light-absorbing water-sol. **phthalocyanine** or naphthalocyanine deriv. with 4 or 8 2-sulfobenzamido and 0-12 halogen substituents is obtained from the appropriate amine and o-sulfobenzoic anhydride. The colorants may be used in aq. **jet-ink printing inks**, color filters, or photorecording materials. The colorants have excellent water resistance after dyeing.

IC ICM C07D487-22
ICS C09B047-22; C09D011-00; G02B005-22; G11B007-24
ICI C07D487-22, C07D259-00, C07D209-00
CC 41-7 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 42, 74
ST **phthalocyanine** colorant sulfobenzamido deriv; naphthalocyanine colorant sulfobenzamido deriv
IT **Inks**
(**jet**-printing, water-thinned; prepn. of **phthalocyanine** and naphthalocyanine colorants for)
IT Dyes
Pigments, nonbiological
(prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)
IT Optical filters
Optical recording materials
(prepn. of **phthalocyanine** and naphthalocyanine colorants for)
IT 14654-63-8P, Copper 4-tetraaminophthalocyanine 28632-29-3P, Copper tetranitrophthalocyanine 28703-58-4P, Copper tetraaminotetrachlorophthalocyanine 95652-88-3P, Tetra-4-aminophthalocyanine 189036-52-0P 189036-54-2P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(intermediate; prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)
IT 189036-39-3P, Copper tetrakis(4-(2-sulfobenzamido)**phthalocyanine**) 189036-43-9P, Tetrakis(4-(2-sulfobenzamido)**phthalocyanine**)

189036-47-3P 189036-50-8P 189036-53-1P
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)

IT 7758-89-6, Cuprous chloride
RL: RCT (Reactant); RACT (Reactant or reagent)
(prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)

IT 81-08-3, o-Sulfobenzoic anhydride 89-40-7, 4-Nitrophthalimide 6015-57-2, 4-Chloro-5-Nitrophthalimide 31643-49-9, 4-Nitrophthalonitrile 184026-06-0
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; prepn. of **phthalocyanine** and naphthalocyanine colorants and their use)

L91 ANSWER 5 OF 17 HCA COPYRIGHT 2003 ACS on STN
122:43751 Fabrication of vertical sidewalls by anisotropic etching of silicon (100) wafers. Zavracky, Paul M.; Earles, Tom; Pokrovskiy, Nikolay L.; Green, John A.; Burns, Brent E. (Dep. Electrical and Computer Engineering, Northeastern Univ., Boston, MA, 02115, USA). Journal of the Electrochemical Society, 141(11), 3182-8 (English) **1994**. CODEN: JESOAN. ISSN: 0013-4651. Publisher: Electrochemical Society.

AB Silicon bulk micromachining using anisotropic etching has become an established method for producing micromech. structures in silicon. Com. applications for micromachining include pressure sensors, accelerometers, optical spectrometers, and **ink jet** nozzles. Typically, silicon (111) planes etch at a much slower rate than the (100) planes in certain etchants. These included potassium hydroxide (KOH), ethylene **diamine** pyrocatechol (EDP), sodium hydroxide (NaOH), ammonium hydroxide (NH4OH), cesium hydroxide (CsOH), tetra-Me ammonium hydroxide (TMAH), and hydrazine (N2H4). Due to its anisotropy, reported to be as high as 400:1 [(100):(111)], high etch rate (4 .mu.m/min), and safety considerations, KOH remains the most widely used silicon anisotropic etchant. In this paper, the authors report the use of KOH to create silicon microstructures with vertical sidewalls on (100) wafers.

CC 76-3 (Electric Phenomena)

IT **Semiconductor devices**
(microscale, potassium hydroxide etchant in creation of silicon microstructures with vertical sidewalls on (100) wafers)

L91 ANSWER 6 OF 17 HCA COPYRIGHT 2003 ACS on STN
121:243427 Method and apparatus for producing a thin-**film resistor**. Koyama, Shuji; Kawajiri, Yukio; Shibata, Makoto; Sueoka, Manabu; Suzuki, Toshio; Yamamoto, Hisashi; Suzuki, Takumi (Canon K. K., Japan). Eur. Pat. Appl. EP 603782 A2 **19940629**, 22 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, PT, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1993-120507 19931220. PRIORITY: JP 1992-340758 19921221.

AB An Al **layer** of wiring material is etched using an alk. aq. soln. There are provided a method for producing a thin-**film resistor**, in which only the Al **layer** can be selectively etched independent of a heating **resistor layer**, esp. for an **ink-jet** printing head, using the alk. aq. soln., an anti-sticking means for **film**-forming app. having the structure which can prevent a drop in yield due to particles, even with less frequency of cleaning of the **film**-forming chamber, and a **film**-forming app. provided with the anti-sticking means. When the wiring electrode **layer** mainly contg. Al is etched by the alk. aq. soln., only the Al **layer** can be selectively etched without

etching the **resistor layer**, which can reduce the change in resistance of the **resistor**, improve the yield and the productivity, and raise the reliability of the thin-**film resistor**. Also, when the anti-sticking means, having a tongued-and-grooved surface, is set in the **film**-forming chamber of the **film**-forming app., the **film**-forming material is deposited in a discontinuous manner on the anti-sticking means, which can delay the time of **film** exfoliation, in turn extend the cycle of cleaning for the anti-sticking plate, and prevent the drop in yield due to **film** exfoliation.

IC ICM H01C007-00
ICS H01C017-06; B41J002-05

CC **76-2** (Electric Phenomena)
Section cross-reference(s): 74

ST thin **film resistor** prodn; aluminum wiring etching thin **film resistor**; heating **resistor ink jet** printing head

IT Electric conductors
(etching of Al wiring material in prodn. of thin-**film resistors**)

IT Etching
(of Al wiring material in prodn. of thin-**film resistors**)

IT Heating systems and Heaters
(elec., etching of Al wiring material in prodn. of thin-**film resistors**)

IT Electric **resistors**
(**film**, method and app. for prodn. of)

IT Printing apparatus
(**ink-jet**, heads, thin-**film resistor** prodn. for)

IT 75-59-2, Tetramethylammonium hydroxide 107-15-3, **Ethylenediamine**, processes 1310-58-3, Potassium hydroxide (KOH), processes 1310-73-2, Sodium hydroxide (NaOH), processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(etchant; etching of Al wiring material in prodn. of thin-**film resistors**)

IT 7429-90-5, Aluminum, processes
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(etching of Al wiring material in prodn. of thin-**film resistors**)

IT 7439-89-6, Iron, processes 7440-02-0, Nickel, processes 7440-03-1, Niobium, processes 7440-05-3, Palladium, processes 7440-21-3, Silicon, processes 7440-22-4, Silver, processes 7440-25-7, Tantalum, processes 7440-32-6, Titanium, processes 7440-48-4, Cobalt, processes 7440-57-5, Gold, processes 7440-58-6, Hafnium, processes 7440-67-7, Zirconium, processes 7440-74-6, Indium, processes 12007-23-7, Hafnium boride (HfB2) 12033-62-4, Tantalum nitride 12741-10-5, Zirconium boride 37239-25-1, Aluminum, tantalum
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(etching of Al wiring material in prodn. of thin-**film resistors** from)

L91 ANSWER 8 OF 17 HCA COPYRIGHT 2003 ACS on STN
119:140767 Prepreg **laminates** for electrical devices. Murai, Akira;

Yokozawa, Shunya; Hibino, Toshiyuki; Takeda, Yoshiyuki; Eda, Tetsuo (Hitachi Chemical Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 05004296 A2 **19930114** Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-170269 19910711. PRIORITY: JP 1990-260878 19900928.

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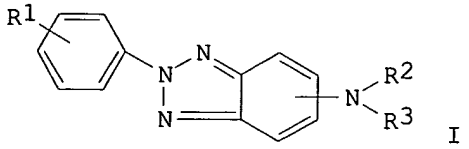

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AB The title **laminates**, printable with UV-curable resist inks, are composed of prepregs of matrix resin contg. benzotriazoles I (R1 = C1-6 alkyl; R2-3 = H, C1-6 alkyl) or pyrazolines and optionally coumarin compds. Thus, a **laminate** was prepd. from prepregs of glass cloths impregnated with an epoxy resin contg. 0.2 phr 2-(4'-methylphenyl)-5-N,N-**diethylaminobenzotriazole**.

IC ICM B32B005-28
ICS B32B007-02; B32B015-08; C08K005-15; C08K005-3445; C08K005-3475; H05K001-03

CC 38-3 (Plastics Fabrication and Uses)
Section cross-reference(s): **76**

ST epoxy resin prepreg **laminate methylphenyldiethylaminobenzot riazole**; pyrazoline epoxy resin prepreg **laminate**; coumarin **benzotriazole** epoxy prepreg **laminate**

IT Epoxy resins, uses
RL: USES (Uses)
(contg. benzotriazoles or pyrazolines, for UV-curable resist **ink-printable** prepreg **laminates**)

IT Electric circuits
(printed, boards, prepreg **laminates** contg. benzotriazoles or pyrazolines for, UV-curable resist **ink-printable**)

IT 91-44-1
RL: USES (Uses)
(epoxy resins contg. benzotriazoles or pyrazolines and, for UV-curable resist **ink-printable** prepreg **laminates**)

IT 136578-84-2 149902-43-2
RL: USES (Uses)
(epoxy resins contg., for UV-curable resist **ink-printable** prepreg **laminates**)

L91 ANSWER 9 OF 17 HCA COPYRIGHT 2003 ACS on STN
118:82915 Actinic radiation-curable, highly filled compositions for electrical and electronic components. Lucey, Michael (USA). U.S. US 5134175 A **19920728**, 14 pp. Cont. of U.S. Ser. No. 133,497, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1990-620378 19901129. PRIORITY: US 1987-133497 19871216.

AB Agglomeration-free title compns., useful for **coating** or potting title components or as **printing inks**, contain vinyl prepolymers, vinyl monomers, photoinitiators, .gtoreq.1 filler or pigment (for inks), and .gtoreq.1 surfactant with mol. wt. >227, with 1 of the surfactants or fillers/pigments having an overall pH .gtoreq.7, the other surfactant(s) or filler(s)/pigment(s) having pH <7, and the overall pH of the surfactant(s) being <7 when the overall pH of the filler(s)/pigment(s) is >7. Thus, Ta capacitor was dip-**coated** with a compn. contg. epoxy acrylate 5.5, dicyclopentenyl acrylate 6, trimethylolpropane

triacrylate 6.5, wetting agent 0.8, photoinitiator/sensitizers 4.5, Gafac RE610 (phosphate acid ester) surfactant 1.3, flame retardants 7.7, 400 Nyad-10024 (silane-treated wollastonite) filler 66, pigment 0.5, peroxide 1, and bubble breaker 0.1%, and the **coated** capacitor was cured with UV light and thermally postcured to give a capacitor with 250-.mu.m **coating**, that exhibited capacitance 48.4 and 49.52 .mu.F, dissipation factor 3.6 and 3.8%, and elec. series resistance 0.99 and 1.04 .OMEGA., before and after 1000 h at 85.degree. and 95% relative humidity, resp. (0.5 V, 120 Hz).

IC ICM C08K003-00
ICS C08F002-46
NCL 522076000
CC 42-5 (Coatings, Inks, and Related Products)
Section cross-reference(s): 36, **76**
ST filler rich **coating** elec component; **printing ink** photocurable; potting photocurable; trimethylolpropane triacrylate **coating** highly filled; dicyclopentenyl acrylate photocurable **coating**; calcium metasilicate filler **coating**; phosphate surfactant highly filled **coating**; epoxy acrylate **coating** highly filled; photocurable elec insulating **coating**
IT Surfactants
(**coatings** and pottings contg., highly filled photocured, with pH control)
IT Pigments
(surfactant dispersants for, in photocurable **printing inks**)
IT Epoxy resins, compounds
RL: USES (Uses)
(acrylates, **coatings** and pottings, elec.-insulating highly filled photocured, contg. surfactants with certain pH)
IT Electric insulators and Dielectrics
(**coatings**, photocured, highly filled, contg. surfactants with certain pH)
IT **Inks**
(**printing**, photocurable, contg. surfactants with certain pH)
IT 7440-25-7, Tantalum, properties
RL: PRP (Properties)
(capacitors, elec.-insulating photocured **coatings** for, highly filled)
IT 145919-29-5 145919-30-8
RL: USES (Uses)
(**coatings** and pottings, highly filled elec.-insulating photocured, contg. surfactants with certain pH)
IT 145552-50-7 145919-28-4
RL: TEM (Technical or engineered material use); USES (Uses)
(**coatings**, highly filled elec.-insulating photocured, contg. surfactants with certain pH)
IT 2530-85-0
RL: USES (Uses)
(fillers treated by, elec.-insulating photocured **coatings** contg. high concns. of, surfactants for)
IT 144747-19-3, Nyad 400-10024
RL: USES (Uses)
(fillers, elec.-insulating photocured **coatings** contg. high concns. of, surfactants for)
IT 8007-18-9, C.I. Pigment Yellow 53
RL: USES (Uses)
(pigments, Yellow V9400, for photocurable **printing inks**, surfactant dispersants for)

IT 1314-98-3, Zinc sulfide, uses 13463-67-7, Titania, uses 144746-80-5, Ferro Black F 2302 144746-81-6, Ferro Blue F 5203 144746-82-7, Ferro Brown F 6114 144746-83-8, Ferro Green V 7687
RL: USES (Uses)
(pigments, for photocurable **printing inks**, surfactant dispersants for)

IT **13983-17-0**, Wollastonite (Ca(SiO3))
RL: USES (Uses)
(silane-treated, fillers, elec.-insulating photocured **coatings** contg. high concns. of, surfactants for)

IT 51811-79-1
RL: USES (Uses)
(surfactants, for highly filled elec.-insulating photocurable **coatings**)

IT **13983-17-0**, Wollastonite (Ca(SiO3))
RL: USES (Uses)
(silane-treated, fillers, elec.-insulating photocured **coatings** contg. high concns. of, surfactants for)

L91 ANSWER 10 OF 17 HCA COPYRIGHT 2003 ACS on STN
117:173523 Electrically conductive pastes containing copper powder and polymers. Oba, Yoichi; Enokido, Masafumi; Iwasayama, Masaru (Asahi Chemical Research Laboratory Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 04145171 A2 **19920519** Heisei, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-269940 19901008.

AB Pastes useful in screen-printing of printed circuits contain reaction products of higher fatty acids and/or soaps with alkanolamines and/or heterocyclic N compds. Thus, a paste contg. powd. Cu 85, synthetic resin 23.6, linoleic acid 2, and N-cyclohexyldiethanolamine 2.55 g was printed on an epoxy resin-Cu **laminate** and cured at 150.degree. for 15 min to give a **film** with elec. resistance 38 m.OMEGA./square.

IC ICM C09D005-24
ICS H01B001-22; H05K001-09

CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): **76**

ST elec conductor **printing ink**; fatty acid adduct ink; linoleic acid adduct ink; amino alc adduct ink; cyclohexyliminodiethanol adduct ink; copper powder ink conductive; circuit board ink conductive

IT Alcohols, compounds
RL: USES (Uses)
(amino, reaction products, with fatty acids, in elec. conductive **printing inks**)

IT Heterocyclic compounds
RL: USES (Uses)
(nitrogen, reaction products, with fatty acids, in elec. conductive **printing inks**)

IT **Inks**
(**printing**, elec. conductive, for printed circuit boards, formulation of)

IT Fatty acids, compounds
RL: USES (Uses)
(reaction products, with amines, in elec. conductive **printing inks**)

IT 7727-37-9
RL: USES (Uses)
(heterocyclic compounds, nitrogen, reaction products, with fatty acids, in elec. conductive **printing inks**)

IT 60-33-3D, Linoleic acid, reaction products with amines 91-22-5D, **Quinoline**, reaction products with fatty acids 102-79-4D, N-Butyldiethanolamine, reaction products with fatty acids 119-65-3D,

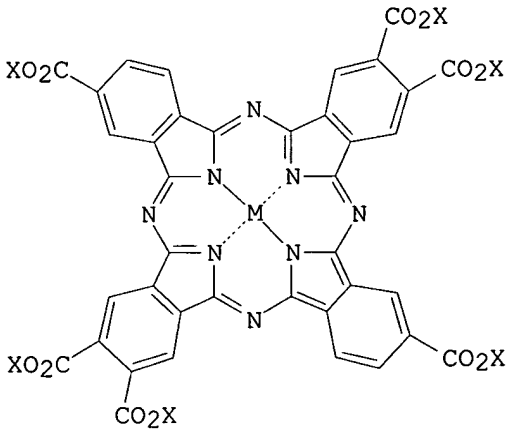
Isoquinoline, reaction products with fatty acids 122-20-3D, 1,1',1''-Nitrilotri-2-propanol, reaction products with fatty acids 463-40-1D, Linolenic acid, reaction products with amines 557-07-3D, Zinc oleate, reaction products with amines 4500-29-2D, reaction products with fatty acids
RL: USES (Uses)
(in elec. conductive **printing inks**)
IT 7440-50-8, Copper, uses
RL: USES (Uses)
(powd., in elec. conductive **printing inks**)

L91 ANSWER 11 OF 17 HCA COPYRIGHT 2003 ACS on STN
117:71845 Polycaprolactone-polyurea-polyurethane inks for printed circuit boards. Yano, Hitoshi; Kikuta, Kazutsune; Konotsune, Shiro (Chisso K. K., Japan). Jpn. Kokai Tokkyo Koho JP 04050271 A2 **19920219** Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-160428 19900619.
AB Title inks comprise polycaprolactone-**diamine**-diisocyanate copolymer 100, novolak epoxy resins 30-300, thixotropic agents 0.2-20, defoaming agents 0.3-30, leveling agents 0.2-10, and optionally flexibility improvers 3-100 parts. Thus, a ink of polycaprolactone diol-MDI-4,4'-diaminodiphenylsulfone copolymer 100, DEN 438 30, aerosil 300 2, DB 100 3.9, and Paintad 57 1.3 parts showed good storage stability (6 mo, room temp.) and gave a 21-.mu.m **film** with good flexibility and heat resistance.
IC ICM C09D011-10
ICS C09D011-02; C09D011-10
CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): **76**
IT **Inks**
(**printing**, polycaprolactone-polyurea-polyurethanes, for printed circuit boards, heat-resistant, flexible)

L91 ANSWER 12 OF 17 HCA COPYRIGHT 2003 ACS on STN
115:77592 A comparison of thick- and thin-film gas-sensitive organic **semiconductor** compounds. Cranny, A. W. J.; Atkinson, J. K.; Burr, P. M.; Mack, D. (Dep. Electron. Comput. Sci., Univ. Southampton, Southampton, SO9 5NH, UK). Sensors and Actuators, B: Chemical, B4(1-2), 169-74 (English) **1991**. CODEN: SABCEB. ISSN: 0925-4005.
AB The use of metal-based **phthalocyanines** in the construction of an array of gas-sensitive elements was explored. A 5-element array was developed in which each of the sensor sites has an individual Pt heating element for independent temp. control. In this way, the array can consist of different **phthalocyanines** and/or operating temps., allowing pattern-recognition techniques to be used in the detection of specific gases. The sensor array was realized as a 28 pin dual in-line package based on an Al2O3 substrate with laser scribed slots to give thermal isolation of adjacent sites. Two methods of **phthalocyanine** deposition were investigated; a thin-film method utilizing low-pressure vapor deposition to give a sensor thickness of typically 1 .mu.m, and a thick-film method whereby the **phthalocyanine** is made into a screen-**printable ink**, producing a typical sensor thickness of 15-20 .mu.m. The sensors produced by the 2 methods exhibit distinct morphol. differences which significantly affect their resp. sensitivities. The more porous thick-film sensors have sensitivities comparable to that of their thin-film counterparts. These results support the theory that the conduction mechanisms in org. **semiconductor** gas sensors are primarily diffusion limited. Of the two fabrication methods described, the thick-film screen-printing technique is far more conductive to vol. manuf.
CC 59-1 (Air Pollution and Industrial Hygiene)

Section cross-reference(s): 47, 76, 79
ST **semiconductor** gas sensor lead **phthalocyanine**; thick thin film **semiconductor** gas sensor
IT Air analysis
(nitrogen dioxide detection in, by **semiconductor** gas sensors, thick vs. thin lead **phthalocyanine** films for)
IT **Semiconductor devices**
(gas sensors, lead **phthalocyanine** thick vs. thin films for)
IT 10102-44-0, Nitrogen dioxide, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detection of, in air, by **semiconductor** gas sensors, lead **phthalocyanine** thick vs. thin films for)
IT 15187-16-3, Lead **phthalocyanine**
RL: OCCU (Occurrence)
(thick vs. thin films of, for **semiconductor** gas sensors)

L91 ANSWER 13 OF 17 HCA COPYRIGHT 2003 ACS on STN
114:44942 **Phthalocyanine** dyes for optical recording materials.
Aoki, Nobuo; Kurita, Jun; Kiriyu, Toshiyuki; Ebisawa, Makoto (Japan Carlit Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02187468 A2 **19900723** Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-6047 19890117.
GI



I

AB The title dyes I (M = metal, metal oxide, metal halide; X = H, cation), which absorb in the near IR region, are useful for optical recording disks and jet-**printing inks**. Thus, pyromellitic anhydride 87.2, trimellitic anhydride 76.8, CuCl2 71.6, urea 720, and ammonium molybdate 24.8 parts were heated at 160-170.degree. for 1 h, heated at 100.degree. in the presence of aq. KOH for 24 h to give 85 parts Cu phthalocyaninehexacarboxylic acid, which dissolved in 0.1% aq. KOH at .gtoreq.5% and showed .lambda.max 684 nm.
IC ICM C09B047-24
ICS B41M005-26; C07D487-22; G03G005-06
CC 41-7 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 42, 74
ST copper phthalocyaninehexacarboxylate prepn dye; **phthalocyanine** dye optical recording material; jet **printing ink**

phthalocyanine dye
IT **Inks**
(**jet**-printing, dyes for, metal phthalocyaninehexacarboxylates as, water-sol.)
IT Dyes
(water-sol., metal phthalocyaninehexacarboxylates, for optical recording app. and jet **printing inks**)
IT 130949-71-2P 130949-72-3P 130949-73-4P 130949-74-5P 130971-08-3P
RL: IMF (Industrial manufacture); PREP (Preparation)
(prepn. of, as near IR dyes for **optical recording materials** and jet-**printing inks**)

L91 ANSWER 14 OF 17 HCA COPYRIGHT 2003 ACS on STN
104:234335 Lithographic printing plate. Naganuma, Tsutomu; Hirayama, Sigeru; Kumagai, Hiroji; Sawada, Manabu; Tanaka, Tsuneo; Kumano, Isao (Toppan Printing Co., Ltd. , Japan; Toyo Ink Mfg. Co., Ltd.). Ger. Offen. DE 3423141 A1 **19860102**, 22 pp. (German). CODEN: GWXXBX.
APPLICATION: DE 1984-3423141 19840622.
AB An electrophotog. lithog plate, not having the disadvantages of com. master papers based on ZnO, consists of an elec. conductive support coated with a photoconductive layer composed of a mixt. with .ltoreq.50 wt.% of a **phthalocyanine** pigment/(ZnO + ZnS) mixt. in a binder resin. The plate is charged, imagewise exposed to long wavelength light from a **semiconductor** laser, developed with a **printing ink**-receptive toner, and fixed. Thus, Cu **phthalocyanine**, Cu tetranitrophthalocyanine, Lionol Blue ER, KR-211, Aron S 1001, ZnO, ZnS, and PhMe were dispersed, the dispersion dild. with PhMe, coated on an Al support, dried, laser exposed, and developed to give a printing plate capable of producing 10,000 prints.
IC ICM G03G013-28
ICS G03G005-04
CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
ST electrophotog photoreceptor lithog plate; **phthalocyanine** pigment electrophotog lithog plate; zinc sulfide electrophotog lithog plate; oxide zinc electrophotog lithog plate; sulfide zinc electrophotog lithog plate
IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(electrophotog. photoreceptor with photoconductive layer contg. **phthalocyanine** pigment and zinc oxide and,'for lithog. plate fabrication)
IT Lithographic plates
(electrophotog. photoreceptors contg. **phthalocyanine** pigment-zinc oxide-binder **compn**. for fabrication of)
IT Photography, electro-, plates
(with photoconductive layer contg. **phthalocyanine** pigment and zinc oxide for lithog. plate fabrication)
IT Vinyl acetal polymers
RL: USES (Uses)
(butyrals, electrophotog. photoreceptor with photoconductive layer contg. **phthalocyanine** pigment and zinc oxide and, for lithog. plate fabrication)
IT 1314-98-3, uses and miscellaneous 55068-91-2
RL: USES (Uses)
(electrophotog. photoreceptor with photoconductive layer contg. **phthalocyanine** pigment and zinc oxide and, for lithog. plate fabrication)

L91 ANSWER 15 OF 17 HCA COPYRIGHT 2003 ACS on STN
87:176485 Circuit board. Bolon, Donald A.; Lucas, Gary M.; Bartholomew, Ralph

L. (General Electric Co., USA). U.S. US 4049844 **19770920**, 8 pp. Division of U.S. 3,988,647. (English). CODEN: USXXAM. APPLICATION: US 1976-670044 19760324.

AB A circuit board is manufd. by steps including the screen printing of a radiation-curable ink onto the surface of a substrate followed by radiation of the ink. Certain radiation curable org. resins (e.g. a polyester resin-styrene mixt.), which include UV curable resins, can be used with certain particulated elec. conductive metal or particulated metal-contg. material to produce a radiation-curable ink which is rendered conductive upon cure. The shape of the particulated conductive material is crit. Spherical, spheroidal, or oblong spherical particles are preferred. A circuit board array suitable for a multistep flash unit for sequential firing of flash bulbs is described. The switch compn. comprises a mixt. of Ag oxide and Ag carbonate and contains an effective amt. of **benzotriazole** for stability.

IC B05D005-06
NCL 427054000
CC **76-14** (Electric Phenomena)
ST flash lamp circuit board; radiation curable **ink printed** circuit; UV curable **ink printed** circuit
IT Soybean oil
RL: USES (Uses)
(epoxidized, acrylates, polymers with ethylhexyl acrylate, radiation-curable ink for printed circuits from silver-**coated** glass spheres and)
IT Epoxy resins, uses and miscellaneous
Polyesters, uses and miscellaneous
RL: USES (Uses)
(radiation-curable ink for printed circuits from silver-**coated** glass spheres and)
IT Glass, oxide
RL: USES (Uses)
(beads, radiation-curable inks from resins and silver-**coated**, for printed circuits)
IT 103-11-7D, polymer with epoxidized soybean oil acrylates 53895-44-6 60054-37-7
RL: USES (Uses)
(radiation-curable ink for printed circuits from silver-**coated** glass spheres and)
IT 7440-22-4, uses and miscellaneous
RL: USES (Uses)
(radiation-curable inks from resins and glass beads **coated** with, for printed circuits)

L91 ANSWER 16 OF 17 HCA COPYRIGHT 2003 ACS on STN
84:137410 Electrically conductive **coating** compositions. Ohtagaki, Kazumasa; Yamasato, Hiroyuki (Fujikura Kasei Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 51010839 **19760128** Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1974-81190 19740717.

AB Elec. conductive **coating** compns. with good soldering properties were prepd. from compns. comprising a guanamine resin 5-10, an alkyd resin 5-10, a Ag [7440-22-4] powder (flake shape, particle diam. .ltoreq.10.mu.) 10-50, a Ag powder (spherical shape, particle diam .ltoreq.10.mu.) 50-90, and stearic acid (I) [57-11-4] 1-3 parts. Thus, a Ag powder (flake shape, .ltoreq.10.mu.) 10, a Ag powder (spherical shape, .ltoreq.10.mu.) 90, a com. alkyd resin varnish (60% solids) 8, a com. guanamine resin (55% solids) 18, I 1, and diethylene glycol monobutyl ether acetate 20 parts were ball milled to give a **printing ink**, which was screen printed on a phenolic resin board to give a printed **film**. A Sn-plated Cu wire was soldered at 200-10.degree. with 6:4 Sn-Pb solder

contg. 3% Ag on the printed **film**.
IC C09D
CC 42-12 (Coatings, Inks, and Related Products)
Section cross-reference(s): **76**
ST elec conductive **coating** compn; silver powder resin varnish; soldering property **printing ink**; guanamine resin varnish; circuit board **printing ink**
IT Electric conductors
(alkyd.-guanamine resin **coatings**, contg. silver)
IT **Coating** materials
(alkyd.-guanamine resins, contg. silver powder, elec. conductive)
IT 1,3,5-Triazine-2,4-**diamine**, resins
RL: TEM (Technical or engineered material use); USES (Uses)
(**coatings**, contg. silver, electrically conductive)
IT 7440-22-4, uses and miscellaneous
RL: USES (Uses)
(alkyd.-guanamine resin **coatings** contg. powder, elec. conductive)
IT 57-11-4, uses and miscellaneous
RL: USES (Uses)
(alkyd.-guanamine resin **coatings** contg., elec. conductive)

L91 ANSWER 17 OF 17 HCA COPYRIGHT 2003 ACS on STN
84:98551 Printed structures, especially printed circuits, and **printing inks** for the process. Lipson, Melvin A.; Knoth, Dale W. (Dynachem Corp., USA). Ger. Offen. DE 2522057 **19751127**, 34 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1975-2522057 19750517.
AB In prepn. of a printed circuit, a substrate is screen-printed with a liq. photopolymerizable ink to produce a photopolymerizable **film** .gtoreq.0.01 mm thick in a desired pattern. The **film** is exposed to actinic radiation, whereby it is hardened to form an etch resist. The areas of the substrate not covered by the resist **film** are modified by etching or by depositing a material on them, and the etch resist is stripped off. The ink consists of an addn.-polymerizable material contg. a hydroxyalkyl acrylate, a preformed polyester binder, and a free-radical-forming system which initiates the addn. polymn. Thus, a screen-**printing ink** which forms an etch resist which can be used in alk. and acid etching and electroplating baths had the following compn.: polymerizable material (hydroxyethyl methacrylate and trimethylolpropane triacrylate in a 1:1 ratio) 28.4; polyester binder (condensation polymer of propylene glycol and phthalic anhydride with a mol. wt. of 3000-5000 and an acid no. of 60-90) 35.2, itaconic acid 2.5 benzoin isobutyl ether 4.2, filler (BaSO4) 28.5, **coating** aid (Modaflow) 0.8, **benzotriazole** 0.08, and phthalo blue pigment 0.15 wt. %. The compn. had an acid no. of 75, a viscosity of 650 P, and a thixotropy index of 1.03. This compn. was screen printed in a pattern on a Cu-plated glass-fiber-reinforced epoxy resin board to form a **layer** 0.25 mm thick. The wet **coating** was illuminated 5 sec with a 200-W medium-pressure Hg vapor lamp, whereby the **coating** was completely hardened and formed an etch resist. The boards were then subjected to FeCl3 etching, alk. etching, and electroplating in CuSO4, Cu pyrophosphate, Cu fluoroborate, and Sn Pb (60/40) fluoroborate baths. The etch resist remained hard and free of tackiness through all these treatments. Then the etch resist was stripped off in a 3% NaOH soln. at 55.degree.. The finished pattern showed excellent agreement with the screen-printed pattern.
IC G03F; B41M; H05K
CC **76-14** (Electric Phenomena)
Section cross-reference(s): 74
ST polyester photopolymer; printed circuit ink; screen printed circuit;

hydroxyalkyl acrylate; screen printing printed circuit; polyester photopolymer ink screen printing; hydroxyalkyl acrylate screen **printing ink**

IT Electric circuits
(printed, photopolymerizable screen-**printing inks** for manuf. of)

=> d L95 1-11 ti

L95 ANSWER 1 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI Water-based offset **lithographic printing ink**

L95 ANSWER 2 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI **Lithographic printing inks** noncorrosive to copper

L95 ANSWER 3 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI Waterless **lithographic printing ink** compositions

L95 ANSWER 4 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI **Printing inks** for **lithographic** plates forming direct images

L95 ANSWER 5 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI Dry **lithographic printing ink**

L95 ANSWER 6 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI **Lithographic printing inks**

L95 ANSWER 7 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI Waterless **inks** for **lithography**

L95 ANSWER 8 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI Paste **printing inks**

L95 ANSWER 9 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI The effect of water on the theological properties of **lithographic** tin-**printing inks**

L95 ANSWER 10 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI Improving the adhesion of greasy **printing inks** to photographic silver images

L95 ANSWER 11 OF 11 HCA COPYRIGHT 2003 ACS on STN
TI Azo dyes and pigments

=> d L95 1-9,11 cbib abs hitind hitrn

L95 ANSWER 1 OF 11 HCA COPYRIGHT 2003 ACS on STN
127:264341 Water-based offset **lithographic printing ink**. Krishnan, Ramasamy; Yamat, Marilyn C.; Babij, Hugo (Sun Chemical Corporation, USA). PCT Int. Appl. WO 9733944 A1 19970918, 15 pp. DESIGNATED STATES: W: AU, CA, MX; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 1997-US3905 19970313. PRIORITY: US 1996-614587 19960313.

AB A water-based offset lithog. **printing ink** comprises (a) water; a (b) macromol. binder which: (i) is optionally present and is

water-sol. regardless of the pH of the water phase, (ii) is present and is water-sol. only at a pre-detd. pH value, or (iii) is optionally present and is an aq. emulsion, (c) a pigment and (d) a re-wetting agent. A nonionic surfactant may also be present in the ink. An ink contained styrene-maleic anhydride copolymer, **phthalocyanine** blue, an acrylic resin latex, hydroxypropyl cellulose, hydroxyethylethylene urea, monoethanolamine, polyethylene wax, an ethoxylated acetylenic diol surfactant, and 50% solids maleated rosin ester.

IC ICM C09D011-02
ICS C09D011-14

CC 42-12 (Coatings, Inks, and Related Products)

ST aq offset lithog **printing ink**; rewetting agent ink

IT Polyoxyalkylenes, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(binder; water-based offset lithog. **printing ink**)

IT Resin acids
RL: TEM (Technical or engineered material use); USES (Uses)
(esters, maleated; water-based offset lithog. **printing ink**)

IT Inks
(lithog., offset; water-based offset lithog. **printing ink**)

IT Carbon black, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pigment; water-based offset lithog. **printing ink**)

IT Wetting agents
(re-; water-based offset lithog. **printing ink**)

IT Binders
Pigments, nonbiological
(water-based offset lithog. **printing ink**)

IT Acrylic polymers, uses
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(water-based offset lithog. **printing ink**)

IT 9002-89-5, Poly(vinyl alcohol) 9002-98-6 9003-05-8, Polyacrylamide
9003-20-7, Poly(vinyl acetate) 9003-39-8, Poly(vinyl pyrrolidone)
9004-32-4, Carboxymethyl cellulose 9004-62-0, Hydroxyethyl cellulose
9004-64-2, Hydroxypropyl cellulose 37208-08-5, Hydroxybutyl cellulose
50851-57-5, Polystyrenesulfonic acid 182482-80-0, Poly(vinyl oxazolidone)
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(binder; water-based offset lithog. **printing ink**)

IT 147-14-8, C.I. Pigment blue 15:1 471-34-1, C.I. Pigment white 18, uses
574-93-6, C.I. Pigment blue 16 1314-98-3, C.I. Pigment white 7, uses
1324-76-1, C.I. Pigment blue 61 1325-82-2, C.I. Pigment violet 3
1325-87-7, C.I. Pigment blue 1 1328-53-6, C.I. Pigment green 7
1657-16-5, C.I. Pigment yellow 4 2092-56-0, C.I. Pigment red 53
2425-85-6, C.I. Pigment red 3 2512-29-0, C.I. Pigment yellow 1
2786-76-7, C.I. Pigment red 170 2814-77-9, C.I. Pigment red 4
3520-72-7, C.I. Pigment orange 13 3564-21-4, C.I. Pigment red 48
4106-67-6, C.I. Pigment yellow 5 4531-49-1, C.I. Pigment yellow 17
5102-83-0, C.I. Pigment yellow 13 5280-68-2, C.I. Pigment red 146
5468-75-7, C.I. Pigment yellow 14 5567-15-7, C.I. Pigment yellow 83
6041-94-7, C.I. Pigment red 2 6358-37-8, C.I. Pigment yellow 55
6358-85-6, C.I. Pigment yellow 12 6410-32-8, C.I. Pigment red 12
6410-35-1, C.I. Pigment red 10 6417-46-5, C.I. Pigment blue 56
6486-23-3, C.I. Pigment yellow 3 6505-28-8, C.I. Pigment orange 16
6528-34-3, C.I. Pigment yellow 65 7023-61-2, C.I. Pigment red 48:2

7585-41-3, C.I. Pigment red 48:1 8005-37-6, C.I. Pigment white 26
12213-69-3, C.I. Pigment green 2 12224-98-5, C.I. Pigment red 81
12225-06-8, C.I. Pigment red 176 12225-18-2, C.I. Pigment yellow 97
12656-85-8, C.I. Pigment red 104 13463-67-7, C.I. Pigment white 6, uses
13515-40-7, C.I. Pigment yellow 73 14302-13-7, C.I. Pigment green 36
17741-63-8, C.I. Pigment violet 37 17852-98-1, C.I. Pigment red 57:2
32432-45-4, C.I. Pigment yellow 98 57455-37-5, C.I. Pigment blue 29
63467-26-5, C.I. Pigment orange 46 215247-95-3, C.I. Pigment violet 23
RL: TEM (Technical or engineered material use); USES (Uses)
(pigment; water-based offset lithog. **printing ink**)

IT 50-70-4, Sorbitol, uses 56-81-5, Glycerol, uses 57-13-6, Urea, uses 62-56-6, Thiourea, uses 107-21-1, Ethylene glycol, uses 112-34-5, Butyl carbitol 1320-51-0, Hydroxyethyl urea
RL: TEM (Technical or engineered material use); USES (Uses)
(rewetting agent; water-based offset lithog. **printing ink**)

IT 9011-13-6, Maleic anhydride-styrene copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(water-based offset lithog. **printing ink**)

L95 ANSWER 2 OF 11 HCA COPYRIGHT 2003 ACS on STN
113:42607 **Lithographic printing inks**
noncorrosive to copper. Doi, Kenichi; Yamaoka, Shintaro; Shirai, Yoshiyuki; Oshima, Yukihiro (Toyo Ink Mfg. Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02077476 A2 **19900316** Heisei, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-230461 19880914.

AB The title inks contg. .gtoreq.0.01% benzotriazoles. Thus, an ink composed of Lionol Blue FG 7330 17.0, Tamanol 356 (rosin-modified phenolic resin) varnish 68.0, and solvent 15.0 parts was mixed with 0.1% **benzotriazole** (I), emulsified in water, applied on a Cu plate, and dried overnight at room temp. to show no Cu corrosion, whereas control ink not contg. I showed corrosion.

IC ICM C09D011-02
CC 42-12 (Coatings, Inks, and Related Products)
ST copper corrosion prevention lithog ink; **benzotriazole** corrosion inhibitor lithog ink

IT 94-97-3, 5-**Chlorobenzotriazole** 95-14-7, 1H-**Benzotriazole** 136-85-6, 5-**Methylbenzotriazole** 29878-31-7, 4-**Methylbenzotriazole**
RL: USES (Uses)
(corrosion inhibitors, for copper, in lithog. inks)

L95 ANSWER 3 OF 11 HCA COPYRIGHT 2003 ACS on STN
110:233345 Waterless **lithographic printing ink** compositions. Nagase, Koichi; Mori, Yoichi (Toray Industries, Inc., Japan). Jpn. Kokai Tokkyo Koho JP 01004676 A2 **19890109** Heisei, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-159947 19870626.

AB Title compns. which comprise solvents contg. .gtoreq.30% amides show excellent heat and chem. resistance and do not stain non-image area. Thus, 60 parts 30% soln. of benzophenonetetracarboxylic dianhydride-3,3'-diaminodiphenyl sulfone copolymer in N-methyl-2-pyrrolidone was kneaded with 18 parts **phthalocyanine** blue to give an ink with good soiling resistance. Images printed by the inks showed no change in color even after 1 h at 280.degree..

IC ICM C09D011-02
CC 42-12 (Coatings, Inks, and Related Products)

L95 ANSWER 4 OF 11 HCA COPYRIGHT 2003 ACS on STN
108:206451 **Printing inks** for **lithographic** plates

forming direct images. Kuzuwata, Masayuki (Ricoh Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63000374 A2 **19880105** Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-143896 19860619.

AB The title inks, having flowability (F; 25.degree.; JIS K 5701) 30-34, contain colorants, resins, drying oils, and petroleum solvents. Thus, 60 parts varnish contg. Hitanol 2Pt (rosin-modified alkylphenolic resin) 45, linseed oil 20, spindle oil 34, and Al stearate 1.5 parts was mixed with **phthalocyanine** blue 20, CaCO3 12, Mn naphthenate 2, and spindle oil 22 parts to give an ink (F = 30) which gave smudge-free printing.

IC ICM C09D011-02

CC 42-12 (Coatings, Inks, and Related Products)

IT 147-14-8, **Phthalocyanine** blue 5160-02-1
RL: USES (Uses)
(lithog. inks contg.)

L95 ANSWER 5 OF 11 HCA COPYRIGHT 2003 ACS on STN

93:27936 Dry **lithographic printing ink**.
Sanders, James F. (Minnesota Mining and Mfg. Co., USA). Ger. Offen. DE 2934390 **19800403**, 36 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1979-2934390 19790823.

AB The title inks, useful over a wide temp. range, contain polymers (mol. wt. .gtoreq.25,000), .gtoreq.5 phr nonreinforcing fillers, and solvents for the polymers. Thus, mixing diundecyl phthalate 41.9, Mineral Seal oil 2.9, linseed oil 4.5, rosin ester (Pentalyn K) 5.4, maleated resin (Uni-Rez A808) 10.3, Parlon S5 (chlorinated natural rubber, mol. wt. 85,000) 5.8, Parlon S20 (mol. wt. 215,000) 4.3, and Parlon S125 (mol. wt. 885,000) 1.5 parts gave a varnish with viscosity 225 P at 32.degree.. Adding talc (Emtal 549) 7.2, carbon black **11**.1, **phthalocyanine** blue 2.6, and silicone oil (viscosity 100 cP) 2.6 parts gave an ink giving good impressions at 13-52.degree..

IC C09D011-08; C09D011-10

CC 42-12 (Coatings, Inks, and Related Products)

L95 ANSWER 6 OF 11 HCA COPYRIGHT 2003 ACS on STN

92:130844 **Lithographic printing inks**. Nemoto, Yuhei; Kodama, Tadayoshi; Otani, Hiroshi (Dainippon Printing Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 54146110 **19791115** Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1978-52801 19780504.

AB Water-in-oil emulsions of C2-6 hydroxycarboxylic acids, P acids or their salts, polyols, H2O pigments, vehicles, thinners, and other additives are useful as **printing inks** for waterless lithog. plates. Thus, a mixt. of carbon black 12, **phthalocyanine** blue 2.1, rosin-modified phenolic resin 40, petroleum resin 32, linseed oil-modified alkyd resin 5, polymd. linseed oil 5, and kerosine 4 parts was rolled, and 45 parts of the paste was emulsified in 55 parts of a mixt. of tartaric acid (I) [87-69-4] 3.5, Na hexaphosphate [18859-54-6] 2, ethylene glycol 15, and H2O 79.5% to give an ink having good printing performance without wetting solns.

IC C09D011-02

CC 42-12 (Coatings, Inks, and Related Products)

ST lithog **printing ink** waterless; emulsion **printing ink**; tartaric acid emulsion ink; polyphosphate salt emulsion ink

IT 18859-54-6
RL: USES (Uses)
(**printing inks** contg. tartaric acid and, water-in-oil emulsion, for waterless lithog.)

L95 ANSWER 7 OF 11 HCA COPYRIGHT 2003 ACS on STN

83:81572 Waterless **inks** for **lithography**. Noshiro, Atsumi;

Inoue, Yoshio (Dainippon Printing Co. Ltd., Japan). Ger. Offen. DE 2450656 **19750430**, 23 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1974-2450656 19741024.

AB Water-free **printing inks** with improved properties are prepd. with binders contg. 1-40% alkyd resin modified with 5-50% siloxane. Thus, heating 70.0 parts alkyd resin (acid no. 5.7, OH no. 105.2) and 30.0 parts methylphenylsiloxane (OH content 4.2%) 5 hr at 150.degree. gives a viscous, yellow, transparent resin. Heating this resin 10.0, rosin-modified alkylphenol resin 40.0, dehydrated castor oil 10.0, spindle oil 38.0, and Al octanoate 2.0 parts 6 hr at 180.degree. gives a binder. An ink contg. this binder 60.0, carbon black 17.0, **phthalocyanine** blue 8.0, wax 7.0, Co naphthenate 1.0, Mn naphthenate 1.0, and spindle oil 6.0 parts, Inkometer tack value (400 rpm, 32.degree., 1 min) **11**.0, gives >30,000 satisfactory impressions, compared with <5000 when the siloxane is present as a phys. mixt.

IC C09D

CC 42-12 (Coatings, Inks, and Related Products)

ST binder **printing ink**; alkyd resin binder; siloxane modified alkyd

IT Siloxanes and Silicones, uses and miscellaneous
RL: USES (Uses)
(alkyd resins modified by, binders for waterless **printing inks**)

IT **Inks**
(**printing**, binders for waterless, siloxane-modified alkyd resins as)

IT Alkyd resins
RL: USES (Uses)
(siloxane-modified, binders for waterless **printing inks**)

L95 ANSWER 8 OF 11 HCA COPYRIGHT 2003 ACS on STN

78:99256 Paste **printing inks**. McInnes, Alan Don (Australian Ink Makers Pty. Ltd.). Brit. GB 1303649 **19730117**, 5 pp. (English). CODEN: BRXXAA. APPLICATION: GB 1969-58443 19700128.

AB Ambient moisture curing paste inks were prepd. from pigment chips, a polyurethane prepolymer prepd. from diphenylmethane 4,4'-diisocyanate (I) [101-68-8] or O:C:N(CH2)6N[C:ONH(CH2)6N:C:O]2, and mineral oil and (or) a thixotropic agent. Thus, a polyether (contg. 3.5% OH), I, arom. hydrocarbon mineral oil (b.p. 200-50.deg.), aliph. hydrocarbon mineral oil (b.p. 300-50.deg.), aluminum isopropoxide [555-31-7] gelling agent, silicone oil, and dibutyl phthalate [84-74-2] thixotropic agent was heated together to give a liq. vehicle. The vehicle, pigment chips contg. 70% **Phthalocyanine** Blue and 30% thermoplastic resin, and the mineral oils were mixed and applied to cardboard and foil substrates to be printed. The printed film dried in 4-5 hr.

IC C08G

CC 42-12 (Coatings, Inks, and Related Products)

ST paste **printing ink**; polyurethane prepolymer **printing ink**; moisture curing **printing ink**; **lithographic ink** polyurethane prepolymer

IT Urethane polymers, uses and miscellaneous
RL: USES (Uses)
(**printing ink**, moisture-curing)

IT **Inks**
(**printing**, from urethane polymers, moisture-curing)

IT 2,4,6(1H,3H,5H)-Pyrimidinetrione, 1,3,5-tris(6-hydroxyhexyl)-, polymers with polyethers
Benzene, 1,1'-methylenebis[4-isocyanato-, polymers with polyethers
RL: USES (Uses)

(**printing ink**, moisture-curing)

L95 ANSWER 9 OF 11 HCA COPYRIGHT 2003 ACS on STN
65:100616 Original Reference No. 65:18848f-h The effect of water on the theological properties of **lithographic** tin-**printing inks**. Cartwright, P. F. S. Brit. Ink. Maker, 8(4), 217-18,220 (English) **1966**.
AB The rheological properties under investigation were: yield value, plastic viscosity, thixotropy, and tack. Inks contg. Benzidine Yellow and Permanent Red 2B pigments have rheological properties of the stable ink and water mixts. practically the same as those of the unadulterated inks. Inks contg. chrome yellow, **Phthalocyanine** Blue and pigment dyes show an increase in yield values and a decrease in plastic viscosities after the addn. of water. The ink contg. one sample of chrome yellow, normally nonthixotropic, was unaffected by the addn. of water, but the ink contg. the other sample of chrome yellow, slightly thixotropic, increased its index of thixotropy from 0.7 to 2.2 upon addn. of H2O. A highly thixotropic ink based on Benzidine Yellow was again hardly affected by the addn. of H2O, and similar results were obtained with a thixotropic ink based on a **Phthalocyanine** Green. When H2O is allowed to evap. from the tackmeter rollers, the tack values rise in all cases above the initial level. This increase is thought to be due to the presence of emulsified H2O. The ease with which this emulsified H2O is lost on more prolonged shearing will depend on the stability of the emulsion; this varies from ink to ink. There is no obvious relation between piling and any particular rheological property. However, inks that retain H2O when on the tackmeter rollers are those that tend to pile on production presses, while inks that lose H2O more readily do not give piling difficulties.
CC 52 (Coatings, Inks, and Related Products)
IT **Ink**
Ink
(**lithographic**, water effect on flow and related properties of)
IT Flow
(of **ink** (**lithographic**), water effect on)

L95 ANSWER 11 OF 11 HCA COPYRIGHT 2003 ACS on STN
52:9079 Original Reference No. 52:1624f-i,1625a-b Azo dyes and pigments. Struve, Wm. S.; Reidinger, Albert D. (E. I. du Pont de Nemours & Co.). US 2808400 **19571001** (Unavailable). APPLICATION: US .
AB Azo dyes and pigments are prepd. from x,2-RHNOC(H2N)C6H3CO2H, where R is a substituted or unsubstituted benzene or naphthalene and x indicates the positions 4,5, or 6. Thus, 2,4-H2N(PhNHOC)C6H3CO2H (I) 25.6 is dissolved at 60.degree. in water 350 with NaOH 4.1 parts. The vol. is adjusted to 500 parts with water at 30.degree. and NaNO2 7.1 is added and dissolved. The mixt. is run into HCl 12.4 with vigorous stirring at 0-2.degree. to give the diazonium mixt. (II). 3-Hydroxy-2-naphthoic acid (III) 20 dissolved at 60.degree. in water contg. NaOH 8.8 parts, Na2CO3 16 in warm water 75 added, and the vol. adjusted to 600 parts with water gives the coupling soln. (IV). II is added to IV in 30 min., the resulting dye (V) filtered off, and washed with 5% aq. NaCl. V is reslurried in water 2500; Turkey-red oil 3.6 dispersed in water 20, NaOAc.3H2O 7.5 in water 25, and MnSO4 25 in warm water 200 parts are added. The mixt. is boiled for 2 min. and the product filtered off, washed, and dried to give a pigment of intense red color of superior light-fastness and excellent resistance to bleed in alk. solns. Similarly were prepd. the Ca and Sr salts of V. In the same manner were prepd. the Mn, Ca, Ba, and Sr toners from the dye obtained from III and 2,5-HO2C(2-MeC6H4NHOC)C6H3N2Cl (VI), the resulting pigments having similar tinctorial properties, light-fastness, and bleed

resistance. Similarly were prepd. the Sr, Ba, Ca, and Mn toners of the dye obtained from III and 2,5-HO2C[5,2,4-Cl(MeO)2C6H2NHOC]C6H3N2Cl; the pigments are bluish red, light-fast, and bleed resistant; and the Sr, Ca, Ba, and Mn toners of the dye prepd. from 2-naphthol (VII) and the diazonium salt of I, all orange pigments of excellent light-fastness and excellent resistance to hot water and EtOH. VI coupled with VII gives after conversion to the Sr, Ca, Mn, and Ba toners orange pigments. VI coupled with AcCH2CONHPh (coupling occurs at the CH2 linkage) and converted to the Sr toner gives a greenish yellow pigment. By coupling VI with 1-phenyl-3-methyl-5-pyrazolone (coupled in the 4-position) and by converting the dye to the Sr toner a reddish yellow pigment is obtained. VI coupled with the .omicron.-toluidide of III (coupled in the ortho position to OH) and converted to the Mn toner gives a yellowish red pigment. Diazotized I coupled with the p-anisidide of III and converted to the Cu complex gives a maroon pigment. 2,5-HO2C(p-MeC6H4NHOC)C6H3N2Cl coupled with 2,4-dihydroxyquinoline and converted to the Ni complex gives a golden-brown pigment. Cf. C.A. 50, 16135g.

CC 25 (Dyes and Textiles Chemistry)

IT Pigments
(azo, metal derivs., for **lithographic printing inks**)

IT Terephthalanilic acid, 2-(2,4-dihydroxy-3-**quinolylazo**)-4'-methyl-, nickel deriv.
Terephthalanilic acid, 2-(2-hydroxy-3-o-tolylcarbamoyl-1-naphthylazo)-2'-methyl-, manganese deriv.
Terephthalanilic acid, 2'-methyl-2-(1-phenylcarbamoylacetonylazo)-, strontium deriv.
Terephthalanilic acid, 2'-methyl-2-(3-methyl-5-oxo-1-phenyl-2-pyrazolin-4-ylazo)-, strontium deriv.

IT 108721-30-8, Terephthalanilic acid, 2-{2-hydroxy-3-[(p-methoxyphenyl)carbamoyl]-1-naphthylazo{- 115050-94-7, Terephthalanilic acid, 2-(2,4-dihydroxy-3-**quinolylazo**)-4'-methyl- 118728-88-4, Terephthalanilic acid, 2'-methyl-2-(1-phenylcarbamoylacetonylazo)- 119077-59-7, Terephthalanilic acid, 2'-methyl-2-(3-methyl-5-oxo-1-phenyl-2-pyrazolin-4-ylazo)- 120335-32-2, Terephthalanilic acid, 2-(2-hydroxy-3-o-tolylcarbamoyl-1-naphthylazo)-2'-methyl- 128330-85-8, Terephthalanilic acid, 2-{2-hydroxy-3-[(p-methoxyphenyl)carbamoyl]-1-naphthylazo{-, copper deriv.
(prepn. of)